

Proceedings of the Association for Library and Information Science Education Annual Conference: ALISE 2020



Promoting Excellence in Library
and Information Science Education

Proceedings of the Association for Library and Information Science Education Annual Conference: **ALISE 2020**

Transforming LIS Education in an Interconnected World
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Promoting Excellence in Library
and Information Science Education

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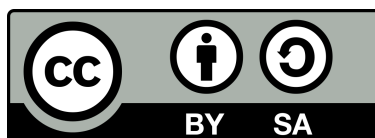
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Table of Contents

Front Matter

Preface and Co-Chairs' Welcome.....	xvi
2018-2019 ALISE Board of Directors.....	xviii
2019 Conference Committee.....	xix
2019 ALISE Conference Reviewers.....	xx
President's Welcome.....	xxiii
Keynote Address.....	xxiv
Juried Papers: An Introduction.....	xxv
Juried Panels: An Introduction.....	xxvi
Works in Progress Showcase: An Introduction.....	xxvii
SIG Sessions: An Introduction.....	xxviii
Jean Tague-Sutcliffe Doctoral Poster Competition: An Introduction.....	xxix
ALISE 2020 Research Awards	xxx

Main Content

Juried Papers

Examining Doctoral Student Education for Collaborative Authorship in LIS <i>Devon Whetstone and Heather Moulaison Sandy</i>	1
Information Literacy in Transition: Self-Perceptions of Community College Students <i>Don Latham, Melissa Gross and Heidi Julien</i>	13
In the Shadow of the ACRL Framework: Current Instructional Practices of Community College Librarians <i>Melissa Gross, Don Latham and Heidi Julien</i>	21
Critical Incidents and Librarian Professional Identity in LIS Pedagogy: Research Methodology as Pedagogical Tool Embedded in Reflexive Practice <i>Cameron Pierson, Anne Goulding and Jennifer Campbell-Meier</i>	28
Bridging the Gap: Employer, Librarian, and Educator Perspectives on Instructional Librarianship <i>Michael Widdersheim, Brendan Fay, Brady Lund and Ting Wang</i>	41
Interdisciplinarity in Students' Research Papers: The Impact of Assignment Requirements on Students' Use of Interdisciplinary Sources in an LIS Research Methods Course <i>Mónica Colón-Aguirre and Kawanna Bright</i>	55
Transforming Reference Education through Improv Comedy <i>Emily Vardell</i>	62
Simulated Person Method for Teaching Soft Skills in the Information Professions: A Pilot Qualitative Study <i>Aviv Shachak, David Remisch and Eva Peisachovich</i>	69
Helping LIS Faculty Know What It's Like to Work in a Library <i>Darin Freeburg</i>	80
"12pm Eastern, 11am Central, 10am Mountain": Student Contributions to Research on Rural and Small Public Libraries <i>Ellen L. Rubenstein, Christine D'Arpa, Susan K. Burke, Noah Lenstra, Abigail Rose, Ginny Schneider and Rebecca R. Floyd</i>	89
Neurodiversity in Higher Education: Library and Information Science Educators Address the Learning Needs of Students with Intellectual Disabilities <i>Mirah Dow and Bobbie Bushman</i>	97

The Potential to Transform: Information Behavior Theory and Reference Service Professional Education	
<i>Amy VanScoy, Heidi Julien and Alison Harding</i>	110
Instructional Design in LIS Education: Preparing for New Educational Roles in an Interconnected World	
<i>Marcia Rapchak and Emily Ahlin</i>	114
Navigating the Cultural Landscape: A Strategy for Enhancing Self-Awareness in Information Professionals	
<i>Rajesh Singh</i>	123
Research-Practice Partnerships: Reaching Underserved Students in the School Library	
<i>Rita Soulen</i>	132
Alzheimer's, Dementia, and LIS: Educating for Service to the Forgotten Patrons	
<i>Timothy Dickey</i>	140
Designing the MLIS: How Design Thinking Can Prepare Information Professionals	
<i>Matt Burton, Marcia Rapchak, Chelsea Gunn and Eleanor Mattern</i>	149
Skill-Building in Online Metadata Instruction: Quality Evaluation of Student-Created Metadata	
<i>Oksana L. Zavalina and Mary Burke</i>	159
Connecting for Successful Transition: Postgraduate Distance Library and Information Studies Students' Transition Experiences	
<i>Anne Goulding and Guanzheng Li</i>	166
New Methods, New Needs: Preparing Academic Library Practitioners to Address Ethical Issues Associated with Learning Analytics	
<i>Kyle Jones and Lisa Janicke Hinchliffe</i>	184
Community-Led Librarianship Demands an Asset-Based Community Development Approach	
<i>Siobhan Stevenson</i>	195
School Librarian's Questions About Remote Instruction: Opportunities for LIS Educators	
<i>Jenna Kammer and Rene Burress</i>	203
A Decolonial Curricular Approach to LIS Education	
<i>Alejandra Mendez</i>	211

Overconfident and Underprepared: Assessment of First-Year Undergraduate Students' Information Literacy Skills <i>Nancy Marksbury and April Higgins</i>	220
Barriers to the Adoption of EHR in GCC Countries: Exploratory Study <i>Reem Alkhaledi, Maram Alkhaledi and Suliman Hawamdeh</i>	230
Integrating Cultural Perspectives in the iField: The Case of Asian Informatics <i>Rongqian Ma and Ning Zou</i>	238
Librarians as Natural Disaster Stress Response Facilitators: Building Evidence for Trauma-Informed Library Education and Practice <i>Marcia A. Mardis, Faye R. Jones, Scott Pickett, Denise Gomez, Curtis Tenney, Zoe Leonarczyk, and Samantha Nagy</i>	248
Graduate Student Use of and Preference for Unlimited-Use e-Books as Textbooks: Preliminary Results <i>Andrew J. M. Smith and Sarah Sutton</i>	257
Chat Reference in the Time of COVID-19: Transforming Essential User Services <i>Marie Radford, Laura Costello, and Kaitlin Montague</i>	264
Transforming Information Literacy Education: Information Literacy Landscapes <i>Logan Rath</i>	271
New Ways of Teaching Library Service to Immigrant Communities <i>Ana Ndumu and Michele Villagran</i>	274
Using Universal Instructional Design to Teach the Fundamentals of LIS <i>Valerie Nessel</i>	281
Digital Humanities Among LIS Programs: An Analysis of Courses <i>Chris Alen Sula and Claudia Berger</i>	288
Library as Research Lab: New Research Engagement Model for LIS Students and Professionals <i>Soo Young Rieh, Elizabeth Yakel and Laurie Alexander</i>	294
Indigenous Digital Inclusion: Interconnections and Comparisons <i>Jennifer Campbell-Meier, Allan Sylvester and Anne Goulding</i>	301
Exploring Data Science Learning Objectives in LIS Education <i>Hammad Khan</i>	317
Expanding Scholarly Research from Print to Video <i>GoUn Kim</i>	326

Using Investigative Video Games to Teach Reference Transaction Skills in Interconnected Classrooms	
<i>John Burgess and Anna Grace Wallace</i>	331

Juried Panels

Preparing Emerging Professionals: Whether and How LIS Faculty Teach “Soft Skills”	
<i>Laura Saunders and Stephen Bajjaly</i>	339

Informing the First Generation MLIS Experience: Challenges & Resources	
<i>Anthony Bernier, Danielle Pollock, Africa Hands, Michele Villagran and Rebecca Davis</i>	340

(Session Withdrawn)	
<i>(Session Withdrawn)</i>	341

Connecting Rural Public Libraries to LIS Education and Research: The Case of Health Services, Programs, and Partnerships	
<i>Denice Adkins, Jenny S. Bossaller, Susan K. Burke, Christine D’Arpa, Noah Lenstra, Bharat Mehra and Ellen L. Rubenstein</i>	342

Library and Information Science Across Disciplines	
<i>Lindsay Mattock, George Shaw, Travis Wagner, Hassan Zamir, and Margaret Zimmerman</i>	343

Podcasts and Partnerships: Learning Through Listening and Content Creation	
<i>Micah Bateman, Aiden Bettine, Jennifer Burek Pierce, and Lindsay Kistler Mattock</i>	344

Critical Data Approaches to the Interconnected Library	
<i>Miriam E. Sweeney, LaTasha Velez, Melissa Villa-Nicholas</i>	345

Poetry and the “Voice” of LIS Educators: Transforming the Fabric of Lives and More	
<i>Jim Elmborg, Jeff Weddle and Bharat Mehra</i>	346

Preparing Librarians to Research in an Interdisciplinary and Interconnected World	
<i>Kawanna Bright, Krystyna Matusiak, Mónica Colón-Aguirre, Rajesh Singh and Jenny Bossaller</i>	347

Wait, What College Are You From? The Innovative, Interdisciplinary Approach to LIS Education through the Lens of Emergency Preparedness, Homeland Security, and Cybersecurity	
<i>Tiffany Williams-Hart, Jennifer Goodall and Abebe Rorissa</i>	348

LIS Education in a Pandemic Era: Innovative Teaching Methods, Strategies, & Technologies	
<i>Abebe Rorissa, Hemalata Iyer, Shimelis Assefa, Kendra Albright and Nadia Caidi</i>	349

Crisis Management, COVID-19, and Libraries: Implications for LIS Education <i>Deborah Charbonneau, Lisa Hussey, Noah Lenstra, Laura Saunders and Rachel Williams</i>	350
Introducing The Tree of Contemplative Practices <i>Jenna Hartel, Kiersten F. Latham, Beck Tench, and Hugh Samson</i>	351
Works in Progress Showcase	
Submission Withdrawn <i>Submission Withdrawn</i>	352
Submission Withdrawn <i>Submission Withdrawn</i>	353
Integrating Community Engagement in LIS Curriculum <i>Ling Jeng and Carol Perryman</i>	354
The Beginning of a Marriage: Content Analysis of Official Announcements of University Press/Library Partnerships <i>Mei Zhang</i>	355
Development, Learning, and Equity in Child- and Youth-Focused Courses in ALA-Accredited Master's Programs <i>Sarah Barriage, Daniela DiGiacomo and Xiaofeng Li</i>	356
Exploring Cultural Competency in Academic Libraries <i>Eric Ely</i>	357
Remote Research and Online Coursework: Complimentary Experiences Prove Valuable for Graduate Students <i>Rebecca Floyd, Abigail Rose, and Virginia Schneider</i>	358
A Multi-Aspect Topical Analysis of User-Generated Content <i>Yunseon Choi</i>	359
Submission Withdrawn <i>Submission Withdrawn</i>	360
Research-Based Development of a Health Information Professional Concentration and Certificate <i>Jinxuan Ma and Emily Vardell</i>	361

Student Privacy in the Datafied Classroom: Privacy Practices in an Interconnected World	
<i>Amy VanScoy, Kyle Jones and Alison Harding</i>	362
Empirical Studies of Information Seeking Behaviors during Pandemics: a Review of Theoretical, Methodological Issues and Implications	
<i>Zhan Hu and Chuhe Wu</i>	363
The Battle for History in The Magic City: Historically Generated Contexts and The Rise of Pluralistic Collecting Institutions in Birmingham, Alabama	
<i>Jeff Hirschy</i>	364
Levels of School Libraries: A Problematic Paradigm	
<i>Rita Soulen</i>	365
Effectiveness of Shared Mental Models on the Success of Multi-Institutional Collaboration to Deliver Online Learning Programs	
<i>Zhan Hu and Rong Tang</i>	366
The Interdisciplinarity of Scientific Research Data	
<i>Hyoungjoo Park</i>	367
Social Work and Public Librarianship: Partnering to Support Patrons in Crisis	
<i>Rachel Williams and Lydia Ogden</i>	368
Exploring Empathy in LIS Education and Practice	
<i>Katerina Stanton</i>	369
Exploring the Effectiveness of Adaptive Technologies to Improve the Quality of Online Library and Information Science Courses	
<i>Angela Murillo</i>	370
LIS Education in a Fully Online World: How to Encourage Students' Participation in Student Organizations?	
<i>Xiaofeng Li, Yoojin Ha and Simon Aristeguieta-Trillos</i>	371
Cultivating Creative Inquiry in Higher Education	
<i>Jennifer Luetkemeyer, Theresa Redmond, Tempestt Adams, Peaches Hash, Jewel Davis and Martha McCaughey</i>	372
Revealing the Disciplinary Landscape of Data Science Journals	
<i>Lingzi Hong, Xinchun Yu and William Moen</i>	373
Transforming LIS Education by Understanding the Complex Decisions of Public Library Leaders	
<i>Deborah Hicks</i>	374

(Submission Withdrawn) <i>(Submission Withdrawn)</i>	375
Health Justice Education in the Time of Coronavirus (COVID-19): A Curriculum Review and Recommendations <i>Emily Vardell and Deborah Charbonneau</i>	376
Service Learning as a Tool for Student Growth, Community Action, and Information Research Inclusion for Diverse Older Adults <i>Joseph Winberry</i>	377
Use of Technology and Perception of Technology Competencies among Librarians <i>Changwoo Yang</i>	378
Adding to the Public Librarian’s Toolbox: A Guide to Anticipate and Respond to Complex Information Needs <i>Kaitlin Montague, Stacy Brody, Kristen Matteucci and Charles Senteio</i>	379
A Teen-Centered Approach to Design Library Services - A Case Study of a Rural Public Library <i>Xiaofeng Li, YooJin Ha and Simon Aristeguieta-Trillos</i>	380
The Challenges and Opportunities of Interdisciplinary Research: When LIS Meets Genocide Studies <i>Martin Nord</i>	381
Community-Based Development of LGBTQ+ Health Information Resources <i>Daniel Delmonaco, Oliver Haimson and Gabriela Marcu</i>	382
Identifying Health-Related Informatics Education and Partnerships in ALA-Accredited Programs and iSchools <i>Tina Griffin and Rebecca Raszewski</i>	383
Producing Productive Public Library Programming for Older Adults: A Participatory Design Approach <i>Valerie Nessel</i>	384
“Chinese Virus” as Anchor for Engaging with COVID-19 Information: Anchoring Bias Leading to Racism and Xenophobia <i>Juan Muhamad, Jessica Wendorf Muhamad, Meng Tian, Fatih Gunaydin, Patrick Merle, Laura-Kate Huse, Muhamad Prabu Wibowo and Maedeh Agharazi</i>	385
Website Security in Public Libraries: The Case Study of Security Applications in Wisconsin Public Libraries <i>Tae Hee Lee</i>	386

A Content Analysis of Digital Reading Skills from the Educational Technology Perspective	
<i>Kerry Townsend</i>	387
Demands and Development Strategies for Support Services of Autonomous Learning at Chinese Universities	
<i>Faliang Zhang, Yuqian Xue and Yijun Gao</i>	388
Analysis of Public Perception of Multiple Community Issues through Social Media Mining during a Pandemic	
<i>Muhamad Prabu Wibowo, Jessica Wendorf Muhamad, Juan Sebastian Muhamad, Fatih Günaydın, Patrick Merle, Laura-Kate Huse, Meng Tian and Maedeh Aghrazi</i>	389
When Virtual Goes Viral: Sustaining Excellence in Library Services in the COVID-19 Pandemic and Its Implications for LIS Education	
<i>Stan Trembach and Liya Deng</i>	390
The Role of Librarians in Gray Zone Conflict	
<i>Kimberly Black</i>	391
COVID-19 and College Teaching in China and USA	
<i>Yijun Gao, Faliang Zhang, Lulu Xu, Jun Hong and Xu Xia</i>	392
SIG Sessions	
Racism and Bias in Student Evaluations of Teaching	
<i>Nicole A. Cooke, Mónica Colón-Aguirre, Amelia Gibson, Renate Chancellor, Michelle Kazmer, David Lankes, and Bharat Mehra</i>	393
Where Do We Stand? Working Toward an ALISE Position Statement on Learning Analytics in Higher Education	
<i>Kyle Jones, John T.F. Burgess, Toni Samek, and Michelle Kazmer</i>	394
The Intersection of Information Ethics and Policy: Challenges and Opportunities for LIS Educators	
<i>Margaret Zimmerman, Nicole Alemanne, Jenna Kammer, Lucy Santos Green, Melissa Johnston, A.J. Million, Lesley Farmer, Michele Villagran, Suliman Hawamdeh and Dian Walster</i>	395
Transforming the Archival Classroom for a Connected Reality	
<i>Sarah A. Buchanan, Najim A. Babalola, Shobhana L. Chelliah, Adam Kriesberg, Sarah Pratt, Katherine M. Wisser and Oksana L. Zavalina</i>	396
Seeking Information Between and Beyond Binaries: Exploring How Queer Theory Can Inform LIS Theories	
<i>Travis Wagner, Vanessa Kitzie and Diana Floegel</i>	397

What Do Youth Service Librarians Need? Reassessing Goals and Curricula in the Context of Changing Information Needs and Behaviors of Youth

Natalie Taylor, Abigail Phillips, Denise E. Agotso, June Abbas, Gabrielle Salib, Rebekah Willett, Nathan T. Wheeler, Yuanyuan Feng, Sarah Barriage, Daniela DiGiacomo, Spencer Greenhalgh, Kristie Escobar, Sarah A. Evans, and Mega Subramaniam..... 398

Transforming Learning: Challenges and Opportunities through School Libraries

Maria Cahill, Jennifer Luetkemeyer, Lesley Farmer, Pamela Harland, Carl Harvey, Jen Spisak, Karla Collins, Audrey Church, Jenna Spiering and Kate Lechtenberg 399

Transforming LIS Education through Disability Inclusion

Keren Dali, Kim M. Thompson, Mirah J. Dow, Sue Alman, Debbie Faires, Andrew J. M. Smith, Sarah Sutton, Anne Goulding, Jennifer Campbell-Meier, Bharat Mehra, Baheya S. Jaber, Abigail L. Phillips, Amelia M. Anderson, Madeline Renner, Rebecca Muir, Asim Qayyum and Melissa Wong..... 400

What About Librarianship in LIS Curricula?

Bill Edgar, YooJin Ha, Susan Rathbun-Grubb and Jessica Jordan 401

Technical Services Education: Transformation and Advocacy

Karen Snow, Heather Moulaison Sandy, Brian Dobreski, Hyerim Cho, and Keren Dali 402

Innovative Teaching Strategies and Conventional Approaches for Enhanced Learning in a Global Information Environment

Renate Chancellor, Shari Lee, Africa Hands, Virginia Tucker, Jenny Bossaller, Denise Adkins, Jamie Kleinsorge, Bharat Mehra, Alex Poole, Denise Agosto, Susan Alman and Debbie Faires 403

Jean Tague-Sutcliffe Doctoral Poster Competition

Health Information-Seeking Behavior among U.S.-Born, Korean-Born, and Immigrant Korean Mothers

Hanseul Stephanie Lee 404

Censorship in Southern Mississippi Prisons

Jennifer Steele..... 405

“A Library is a Place You Can Lose Your Innocence Without Losing Your Virginity”: LGBTQAI+ Young Adults, Young Adult Literature, & Sexuality Health Information Needs

Kristie Escobar 406

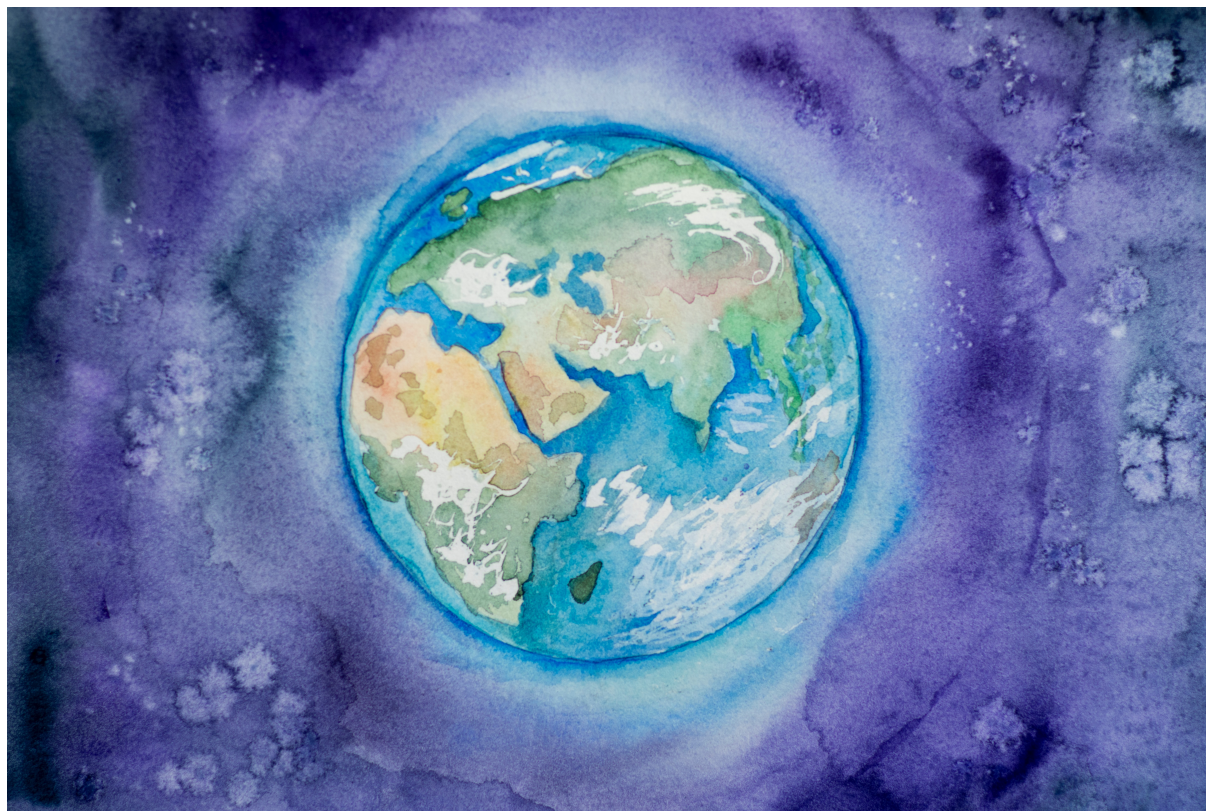
Introducing the Concept of Social Noise

Tara Zimmerman..... 407

An Ethnographic Study of Romanian Vernacular Museums as Spaces of Knowledge-Making and Their Institutional Legitimation	
<i>Cheryl Klimaszewski</i>	408
Factors Influencing Professional Identity Development and Negotiation of Public Librarians in Aotearoa New Zealand	
<i>Cameron Pierson</i>	409
Submission Withdrawn	
<i>Submission Withdrawn</i>	410
Using Social Media Tools for Collaborative Learning: A Mixed-Method Investigation on Academic Group Work by iSchool Students around the World	
<i>Wenqing Lu</i>	411
(Submission Withdrawn)	
<i>(Submission Withdrawn)</i>	412
Generation Examination: A Phenomenological Study of Generation X Women and Mobile Games	
<i>Michelle Benedicta</i>	413
From Here To: Everyday Wayfinding in the Age of Google Maps	
<i>Rebecca Noone</i>	414
The Collaborative Commons: Collaboration and Leadership in Academic Library Learning Commons	
<i>LeRoy LaFleur</i>	415
(Submission Withdrawn)	
<i>(Submission Withdrawn)</i>	416
Modeling Deception for Identifying and Protecting against Advanced Email Phishing	
<i>Abdullah Almoqbil, Brian O'Connor, Rich Anderson, Patrick McLeod, Jibril Shittu, and Bader Alshemaimri</i>	417
The Information Behavior of Adult Independent Game Designers	
<i>Marziah Karch</i>	418
A Comprehensive Scientometric Evaluation of the Field of Information Literacy Using Hybrid Bibliometric and Full-Text Lexical Analysis Methods	
<i>Devon Whetstone</i>	419

Submission Withdrawn	
<i>Submission Withdrawn</i>	420
“Take the Trouble to Compile a Whole New World:” The Role of Event-Based Participatory Projects in Institutional Archives	
<i>Ana Roeschley</i>	421
Searching for Information to Help at a Distance in Disaster Response: A Case Study of “Tutteli to Japan”	
<i>Aiko Takazawa</i>	422
Author Index	423
Author-Added Keywords Index	449
ALISE Research Taxonomy Index	439

Preface and Co-Chairs' Welcome



It is our pleasure to share with you the Proceedings of the ALISE 2020 first-ever Virtual Conference! With the theme “Transforming LIS Education in an Interconnected World,” the conference is focused on the challenges and opportunities that these transformations present to LIS educators in the context of institutional narratives, sustainability, and the positioning of LIS as an increasingly interdisciplinary field. Moving the conference online due to COVID-19 came with its challenges but did not prevent us from developing an impressive and strong program featuring 12 paper sessions (38 papers), 12 panels, 11 SIG sessions, 40 work-in-progress posters, and 17 Doctoral posters. Building a high-quality conference program has been made possible through the dedicated efforts of over 100 peer-reviewers, who invested their time and expertise amid very difficult circumstances.

This year, we are excited once again to partner with the Illinois Digital Environment for Access to Learning and Scholarship (IDEALS) for the production of open-access online proceedings.

For the first time, both the conference sessions and proceedings will feature full short research papers (of about 3,000 words), two of which have won the newly established Best Conference Paper Award. We would like to take this opportunity to thank Juried Papers Co-chairs Nora Bird and Kyle M. L. Jones; Juried Panels and SIG Panels Co-chairs Don Latham and Michele Villagran; Director for SIGs Lilia Pavlovsky; ALISE Academy Co-chairs Kendra Albright and Bharat Mehra; Works-in-Progress Posters Co-chairs Amelia Anderson and Jenny Bossaller; ALISE/Jean Tague-Sutcliffe Doctoral Student Poster Competition Co-chairs Dan Albertson and Rachel Ivy Clarke, and ALISE Proceedings Chair Hannah C. Gunderman. We wish to express our gratitude to the

ALISE leadership, President Stephen Bajjaly, Executive Director Cambria Happ, and ALISE staff Linda Bailey and Ana Mattson for their support, encouragement, and guidance in the process. Finally, we would like to extend our sincere gratitude to Tegan Mitchell, graduate student at the University of Denver's Library and Information Science Master's Program, for her carefully detailed proofreading of the Proceedings. Without her support, we could not have produced such a high-quality Proceedings volume and we are forever grateful!

We hope you enjoy the 2020 ALISE Virtual Annual Conference and the many sessions and events now included in the proceedings!

We are looking forward to connecting with you virtually in October 2020!

Suliman Hawamdeh, Keren Dali, and Hannah C. Gunderman

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 Athena Salaba, Kent State University, USA
 Gabrielle Salib, Drexel University, USA
 Laura Saunders, Simmons University, USA
 Fei Shu, Hangzhou Dianzi University, Chinese Academy of Science and Education Evaluation (CASEE), China
 Rajesh Singh, St. John’s University, USA
 Andrew J.M. Smith, Emporia State University, USA

Linda C. Smith, University of Illinois at Urbana-Champaign, USA
Jenifer Spisak, Longwood University, USA
Louise Spiteri, Dalhousie University, Canada
Beth St. Jean, University of Maryland College Park, USA
Suzanne Stauffer, Louisiana State University, USA
Christopher Stewart, University of Southern California, USA
Ying Sun, University at Buffalo, State University of New York, USA
Linda Swaine, Florida State University, USA
Iman Tahamtan, University of Tennessee-Knoxville, USA
Anna Maria Tammaro, University of Parma, Italy
Rong Tang, Simmons College, USA
Deborah Taylor, ALISE, USA
Ahmet Tmava, Texas Woman's University, USA
Amy VanScoy, University at Buffalo, State University of New York, USA
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Joseph Winberry, University of Tennessee-Knoxville, USA
Dietmar Wolfram, University of Wisconsin-Milwaukee, USA
Adam Worrall, University of Alberta, Canada
Ge Zhang, Peking University, China
Mei Zhang, Syracuse University, USA
Xiaohua Zhu, University of Tennessee-Knoxville, USA

President's Welcome

Welcome to the first-ever ALISE Virtual Conference! Even though the worldwide COVID-19 pandemic forced our conference online after its planning was well underway, this unexpected change presents ALISE 2020 with many opportunities for engagement that are simply not possible at a place-based conference. Who knew when the conference co-chairs and I began strategizing eighteen months ago that this year's theme, "Transforming LIS Education in an Interconnected World," would prove so prescient? Without such interconnectedness afforded by the internet, high-speed bandwidth, and cloud-based multimedia presentation platforms, "meeting" this year would not be at all possible.

This year's conference recognizes that library and information science education continues to be transformed by technological advances, international trends, and expanded interconnectedness, both local and global. "Change" has become a buzzword but also a constant reality. Our field is affected by growing diversity, the pervasive culture of metrics and performance indicators, widespread misinformation campaigns, the need to project clear institutional images, the imperative of the public good and sustainability, and the need to prove the value of higher education and professional activities to community stakeholders, professional collaborators, and funding agencies. Our social settings, educational environments, and workplaces are fluid and fast-paced.

In an era shaped by the continuing evolution of the information landscape, these trends present an auspicious field of activity for LIS educators, students, and researchers but also challenge us to stay relevant, creative, up-to-date, responsive to change, and proactive for the future. ALISE 2020 focuses on the challenges and opportunities these transformations present to LIS educators in terms of institutional narratives, sustainability, and our positioning as an increasingly interdisciplinary field.

Our keynote speaker, Dr. William Alba, Assistant Dean for Diversity in the Carnegie Mellon University College of Science, will address one of today's most important information challenges. Dr. Alba's keynote speech, "Truth and Trust in 2020," focuses on the myriad obstacles we must overcome when trust in experts is eroded and opinion is conflated with truth.

My deepest appreciation goes to the conference planning committee, especially to co-chairs Suliman Hawamdeh and Keren Dali, who have really stepped up and devoted so much creative energy, in addition to careful planning, to deliver an uncompromised conference experience in our virtual environment. Thanks to Hannah Gunderman once again for preparing the conference Proceedings, and to the awards committee chairs and members who devoted their energies and expertise to select worthy recipients for this year's awards. I am also grateful to my colleagues on the ALISE Board of Directors and to our Executive Director, Cambria Happ, and her staff at McKenna Management who have ably guided us into the world of virtual conferencing. We wish all conference attendees a robust, stimulating, and engaging virtual conference experience.

Stephen Bajjaly, 2019-2020 ALISE President

Keynote Address

Dr. William Alba

Assistant Dean for Diversity, Mellon College of Science at Carnegie Mellon University,
Pittsburgh, PA, USA

Title: Truth and Trust in 2020

Abstract: Professionals in library and information science education are experts at archiving, organizing, and providing access to knowledge. However, we live during a time when trust in experts is eroded and opinion is conflated with truth.

I will examine these challenges from multiple disciplinary and historical angles. First, other human enterprises, from the everyday to the lofty, endure similar concerns with truth and trust. These include scientific research on numerous topics of public interest, such as climate change, dietary guidelines, and pandemic risks; political discourse with those holding opposing views; and the decision about whether to broadcast our presence to the stars. Second, while the rise of the Internet has complicated judgments of trust and truth, these issues have also concerned prior civilizations, including ancient Greek and Roman societies. Third, recent studies from behavioral economics and the history of science can help us understand why contemporary technologies steer us towards mistrust and confusion, as well as provide some direction on ways to move forward.

There is no silver bullet to resolve problems of truth and trust. Nevertheless, this symphonic review of how others in different areas and over the centuries have handled these matters can assist LIS professionals in taking the fore to navigate these straits.

Juried Papers: An Introduction

The intent of the Juried Papers track is to encourage original contributions on the conference theme of “Transforming LIS Education in an Interconnected World.” For sure, we are all beginning to fully understand what it means to transform education as we face a worldwide pandemic. Many of our colleagues are transitioning to online education as a necessary reaction. Like students, they are learning about the opportunities and challenges that come with virtual distance learning. Other colleagues who have taught online are finding themselves in a position of leadership on their respective campuses. Their campus peers and administrators are asking questions about what it means to do online education well—for the sake of the institution and the student experience. In this challenging time, we look to each other for inspiration, advice, and comfort as we attempt to conduct LIS education in a world seemingly interconnected in ways once unimaginable. Perhaps no ALISE conference theme has been more prescient.

As the world was disrupted by a spreading pandemic, ALISE reacted with empathy and understanding. Part of this reaction led to the extension of the due date for juried paper submissions. In that time, the Co-Chairs received 68 submissions in either abstract, extended abstract, or full paper form. In comparison with 2019, this reflects a 128 percent increase in submissions. Submissions addressed research, theory, pedagogy, and best practices of interest to ALISE members. Every submission was subjected to two independent double-blind reviews; the overall quantitative and descriptive assessments were then reviewed by the juried panel Co-Chairs and the conference chairs. We accepted 41 of the contributions but 3 were withdrawn, resulting in a 60 percent acceptance rate with a total of 38 final contributions to the program. Among the items accepted are topics including information literacy, learning analytics, neurodiverse LIS students, and metadata librarianship. These topics will be of interest not only to the conference goers but to the entire profession and we have been happy to facilitate their appearance here.

Nora Bird & Kyle M.L. Jones
ALISE 2020 Juried Papers Co-Chairs

Juried Panels: An Introduction

The juried panels are an opportunity for individuals to collaborate and connect with one another around topics that support the 2020 ALISE annual conference theme of, “Transforming LIS Education in an Interconnected World.” Just as we are interconnected within the field of LIS education, juried panels offer the opportunity to interconnect. The call for proposals explicitly sought submissions “that explore the challenges and opportunities that technological advances, international trends, and expanded interconnectedness present to LIS educators in terms of institutional narratives, sustainability, and the positioning of LIS as an increasingly interdisciplinary field.” The chosen juried panels of this year’s conference addressed this call.

The juried panels selected for this year’s conference offer thoughtful presentations and discussions on a range of topics. Some of the panels focus on the value of interdisciplinarity in the areas of research and curriculum. Others discuss opportunities for innovative pedagogy in, for example, teaching so-called “soft” skills to LIS students and using podcasts to promote learning. Several panels focus on two vital issues that have been at the forefront of national and international discussions. One is the importance of diversity and social justice. The various topics addressed include informing the first generation MLIS student experience, designing inclusive and equitable courses, teaching students how to use critical data approaches to better support their library communities, and incorporating liberating structures into LIS education.

Another issue is health and the COVID-19 pandemic. Topics in this area range from the connection between rural public libraries and rural health services to LIS education and crisis management in the pandemic era. Several other panels highlight the importance of personal and professional development and self-care. Topics covered include the role of poetry in the lives of LIS educators, the use of contemplative practices among both educators and students, and the value of group peer mentoring for both teaching and research.

In summary to this introduction, juried panels are a great option for panelists to have connections between the parts or elements; being interconnected with one another. Interconnectedness offers a framework for panelists to explore and interact with one another to develop complex ideas into well-constructed presentations. Future collaborations and research ideas may emerge from these relationships. It is our hope that the panelists of today’s conference will help foster, support and engage with future panelists through the sharing of their research and offer the potential for new creations. We wish all of you a wonderful ALISE experience!

Don Latham & Michele A.L. Villagran
ALISE 2020 Juried Panels Co-Chairs

Works in Progress Showcase: An Introduction

This year's Works in Progress showcase features 50 posters that cover a broad range of topics. The theme of LIS education in an interconnected world was widely and creatively interpreted. Of the submissions, there were fourteen that were directly related to LIS education and several others related to higher education, more generally. There were a number of themes that emerged from the submissions which related to current events, as well – most notably, new research on COVID-19's and pandemics' effect on education and communities. There were number of submissions dealing with information or library policies – including privacy, security, censorship, social media, and public data. This was also a pivotal year for racial equity and justice, community building, and social participation, all of which are represented in the Works in Progress poster session.

We had a great time reviewing all of these developing studies and to get a sneak peek into new directions that our colleagues are taking their research. Works in Progress is a time for researchers to receive constructive feedback from peers and mentors in a supportive environment. We are looking forward to seeing how this year's online format will give everyone a platform to showcase their innovative work!

Jenny Bossaller & Amelia Anderson
ALISE 2020 Works in Progress Showcase Co-Chairs

[illegible]

The SIG sessions at the 2020 ALISE conference explore a broad range of topics including those related to bias, gender and inclusion. Other sessions will focus on exploration of contextual issues in areas of school librarianship, archives, technical services, ethics and more. Pedagogy, innovation, content construction and delivery are also addressed. Although 2020 is a time of challenge and uncertainty, the theme of transformation flows through this year's SIG presentations.

Lilia Pavlovsky
ALISE 2020 Director for Special Interest Groups

Jean Tague-Sutcliffe

Doctoral Poster Competition: An Introduction

In the proceedings, we are delighted to present the work of 19 doctoral students and recent graduates in the Jean Tague-Sutcliffe Doctoral Student Research Poster Competition. This competition was established in 1997 by students from the University of Western Ontario in memory of Jean Tague-Sutcliffe, Professor and former Dean of the Graduate School of Library and Information Science at the University of Western Ontario (now the Faculty of Information and Media Studies). During her thirty-year career, Professor Sutcliffe produced significant and widely regarded research relating to mathematical information retrieval, bibliometrics and information measurement. Her work is internationally recognized for its contributions to the theoretical, methodological, and practical foundations of library and information science.

This award also recognizes Professor Sutcliffe's dedication to the education of information professionals by awarding a certificate, a one-year student annual membership to ALISE, and a \$200 cash prize to the first-place winner. The winning poster demonstrates practical, theoretical, and statistical significance; appropriate and well-described research design and method; a clear and succinct oral presentation; and well-organized and attractive visual materials.

Dan Albertson & Rachel Ivy Clarke

ALISE 2020 Jean Tague-Sutcliffe Doctoral Poster Competition Co-Chairs

ALISE 2020 Research Awards

This year, we are thrilled to announce the winners of four ALISE research awards! They will present the papers for which they won the award at ALISE 2020. We encourage you to attend their presentations and congratulate them on their achievement!

ALISE Research Grant Competition

Jungwon Yoon, University of South Florida, and James Andrews, University of South Florida

Exploring Best Practices for Preparing Librarians in Adopting Artificial Intelligence Into Libraries

ALISE/Bohdan S. Wynar Research Paper Competition

Mega Subramaniam, University of Maryland; Natalie Pang, National University of Singapore; Shandra Morehouse, University of Maryland; and S. Nisa Asgarali-Hoffman, University of Maryland, Baltimore County

Positioning Vulnerability in Youth Digital Information Practices Scholarship: What are we Missing or Exhausting?

ALISE/Proquest Methodology Paper Competition

Vanessa Kitzie, University of South Carolina; Travis Wagner, University of South Carolina; A. Nick Vera, University of South Carolina; and Jocelyn Pettigrew, Richland Library

Using the World Café Methodology to Support Community-centric Research and Practice in Library and Information Science

ALISE/Eugene Garfield Doctoral Dissertation Competition

Eva Revitt, University of Alberta

The Academic Librarian as the Subaltern: An Institutional Ethnography of a Feminized Profession

Examining Doctoral Student Education for Collaborative Authorship in LIS

Devon Whetstone and Heather Moulaison Sandy

University of Missouri, United States of America

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ABSTRACT

Doctoral students in Library and Information Science (LIS) are encouraged to publish formally by themselves, but also with faculty and peer collaborators. Ethical practices for evaluating authorship contribution in collaborative research projects are not, however, generally included as a formal aspect of doctoral education. How, then, can LIS doctoral students best learn about the ethical enactment of co-authorship? This paper presents and synthesizes literature and standards on authorship collaborations relevant to doctoral students and their mentors, and makes three recommendations to supplement authorship education in the curriculum of LIS doctoral programs. Special attention is devoted to interdisciplinary collaborations.

ALISE RESEARCH TAXONOMY TOPICS

information ethics; scholarly communications; students; curriculum

AUTHOR KEYWORDS

authorship criteria; authorship practices; doctoral education; student research

AUTHORSHIP IN DOCTORAL EDUCATION

Authorship is a critical component of a career in academia and one of the many metrics on which faculty are evaluated. For many doctoral students, publishing during the PhD program is not only a crucial milestone, but for some, publishing is a criterion for remaining in good standing in their programs and for graduation. Students who publish gain experience in research and the publication process, start a record of scholarship, and build confidence as academicians, better situating themselves as future academics and as successful researchers. With what seems to be across-the-board pressures for doctoral students to publish, collaborative writing projects can be appealing – for doctoral students in library and information science (LIS), this can mean writing with advisors, with peers, with practitioners, and others, including collaborators outside of LIS. To this end, doctoral curricula need to devote focus to “a stronger orientation to induction

and participation in the world of peer-reviewed publication” (Lee & Kamler, 2008, p. 511) in support of these authorship initiatives.

Doctoral students formally learn about research through coursework, mentored experiences, and ultimately the dissertation. Mentorship, especially as it relates to learning to be a researcher, is an important element of the doctoral experience, and mentored co-authorship opportunities between students and faculty can be a mutually beneficial way of supporting the successful publishing record of both. For students, mentorship has been shown to be positively linked to scholarly activities such as conference participation and productivity (Cronan-Hillix et al., 1986; Hollingsworth & Fassinger, 2002), increased student retention (Brill et al., 2014), and student satisfaction (Clark et al., 2000; Cronan-Hillix et al., 1986). Faculty mentorship of doctoral students through co-authorship is a logical part of the mentorship experience, but one that potentially leaves students vulnerable (Geelhoed, 2007; Goodyear et al., 1992). As mentioned, mentorship is not the only way that doctoral students learn about research, and it does not need to be the only way they learn about co-authorship, either; formal coursework and activities supporting co-authorship practices that can be made to be part of the curriculum are explored below.

Complexities of authorship for student authors

Authorship remains the ‘coin of the realm’ in academia. When doctoral students participate in collaborative research, determining who receives authorship credit and how to order authors in the byline is sometimes obvious. For example, the *American Psychological Association* [APA] stipulates any research based on a student’s dissertation usually lists the student as the principal author (APA, 2017, Section 8.12). Unequal power dynamics, inexperience, or extent of participation, however, can potentially cause confusion as to whether an individual is credited as an author, or in what order vis-à-vis other authors. For example, ambiguity in determining authorship order may occur in cases where all members of a research team are contributing equally and in ways that merit authorship credit, which in turn would make the quantification (and subsequent authorship order) of contribution level difficult. Furthermore, interdisciplinary collaborations, which are common in LIS (Chang and Huang, 2012), present an extra layer of complexity as opinions on what constitutes authorship differs by discipline (Marušić et al., 2011).

Questions about authorship order (Goodyear et al., 1992), and questionable practices such as plagiarism (Howard, 2008) and gift or ghost authorship (Oberlander & Spencer, 2006) emerge as genuine problems of authorship that doctoral students and their co-authors will be required to navigate. When collaborating with faculty or other senior researchers, doctoral students and their contributions become vulnerable due to the unequal power dynamic (Geelhoed, 2007; Goodyear et al., 1992). Students may be taken advantage of by being uncredited or not receiving enough credit for their work, or even having their research stolen from them (Howard, 2008).

Recommendations exist on how faculty should navigate authorship conversations with students (see Fine & Kurdek, 1993; Oberlander & Spencer, 2006), as do recommendations for early-career researchers (see Albert & Wager, 2003), but they are incomplete with respect to LIS. Given the increase in interdisciplinary collaborations (Chang & Huang, 2012) and that the majority of LIS researchers publish in outside disciplines (Larivière et al., 2012), special

attention to preparing doctoral candidates to navigate authorship in these types of collaborations, along with LIS-based collaborations, is essential. Further, research experiences may be new to students who matriculate into LIS doctoral programs, especially for those who completed a non-thesis master's program, particularly one designed for practitioners. Given the problematic nature of authorship uncertainty for doctoral students and the often unique, practice-focused educational background of doctoral students in LIS, best practices in authorship education for doctoral students, as relevant to LIS, need to be reviewed.

Research objectives

This paper aims to synthesize relevant literature and recommendations on collaborative authorship for doctoral students and recommend how instruction can be integrated into the doctoral curriculum in LIS through formal, course-embedded learning activities.

LITERATURE REVIEW

Authorship criteria

Numerous organizations have established criteria for authorship. Two of the most notable sets of authorship criteria are the *International Committee of Medical Journal Editors Criteria* [ICMJE] (ICMJE, 2020), and the publication credit policy defined in the American Psychological Association's *Ethical Principles of Psychologists and Code of Conduct* [APA] (APA, 2017, sec. 8.12). Overall, the two policies for awarding authorship are largely consistent. The major points of deviation are APA's inclusion of criteria related to author status, and how to order authors when student work is involved. ICMJE and APA are compared in Table 1.

<i>Component</i>	<i>ICMJE (2020)</i>	<i>APA (2017)</i>
Authorship Credit	Substantial contribution to: <ul style="list-style-type: none"> • Idea conception • Design • Analysis • Interpretation • Writing Final approval Accountability agreement	Substantial contribution
Author Status/Position	n/a	Based on contribution level Rank or status does not justify authorship credit
Dealing with Minor Contributions	Minor contributions are not awarded authorship	Minor contributions are acknowledged in

	Acknowledgement recommended	footnotes or introductory statement
Publishing with Students	n/a	Student is listed as principal author on work based on the dissertation
Authorship Discussion	Research team decides credit and order before the work begins, and confirms before manuscript submission	Faculty advisors discuss publication credit with students early and often
Responsibility/Accountability	The fourth of authorship necessitates agreeing to take accountability for the work	Authors are responsible for work they have performed or substantially contributed

Table 1. Comparison of ICMJE and APA Authorship Components.

The application of authorship criteria must be learned. Studies of faculty have demonstrated strong agreement with established authorship criteria (i.e., ICMJE and APA) that authorship credit should only be awarded to individuals who have contributed significantly to the project and should not be awarded as a token of gratitude or to researchers of notoriety (Sandler & Russell, 2005; Spiegel & Keith-Spiegel, 1970). Studies involving student understanding of authorship criteria were not as consistent. Costa and Gatz (1992) showed students evaluations of dissertation authorship vignettes were not in line with APA guidelines. Students and faculty did agree that as contribution increases, more authorship credit should be awarded. When it came to attributing authorship credit, however, faculty awarded more credit to students for work than the students awarded to themselves. A more alarming finding of the study was that a significantly high number of both students and faculty awarded the advisor first authorship in scenarios where APA criteria would indicate the student be awarded first authorship. These findings demonstrate students can be overly generous in the assignment of credit to their advisors, which creates an environment where they may be exploited.

Education and mentorship are key to learning to apply the criteria. Rose and Fischer (1998) found that when provided with the APA criteria on authorship, student perception of ethics of authorship between an advisor and student was impacted and students were more likely to attribute credit in accordance with the criteria. Although knowledge of authorship criteria is helpful for students, some authors note the language is open to interpretation (Keith-Spiegel & Koocher, 1985; Oberlander & Spencer, 2006), which may introduce additional problems if students are not formally taught to interpret the criteria and to implement them.

Collaborative research in (and out) of LIS

Collaborative research has become the norm in Library and Information Science, both within the discipline and in interdisciplinary research (Chang & Huang, 2012; McNicol, 2003).

The rate of interdisciplinary collaborations is increasing faster than that of intradisciplinary collaborations (Chua & Yang, 2008), and the majority of LIS researchers publish in disciplines outside of LIS (Larvière et al., 2012), implying they might be working with collaborators from other disciplines who might have different background or training in awarding authorship credit.

No matter the career path they ultimately choose, no matter their potential collaborators, doctoral students in LIS (and in all disciplines) need to understand the norms and practices of their chosen discipline in terms of authorship (Lee & Kamler, 2008). Ideally, they will also develop an appreciation for other approaches to authorship, but within the parameters of standards promoted by the publishing industry. Regardless of their present and future collaborators, however, doctoral students in LIS should be equipped to discuss authorship intelligently.

LITERATURE ON COLLABORATIONS BETWEEN SENIOR AND JUNIOR (E.G. STUDENT) RESEARCHERS

Three articles with strong foundations in studies on authorship collaborations involving graduate students are analyzed here: Fine and Kurdek (1993) and Oberlander and Spencer (2006) were selected based on citation count, and alignment with the APA guidelines; although Albert and Wager (2003) is geared more toward faculty work with new researchers than with graduate students, it was selected due to its alignment with the ICMJE standards. Each provides recommendations regarding authorship credit and order (Table 2), discussing authorship (Table 3), and handling disputes (Table 4). All three provide similar recommendations for dealing with minor contributions, authorship discussions, and creating written agreements to clarify roles and duties. Authorship order, disputes and ethical dilemmas, and student support were the most disparate categories.

Recommendation Category	Fine and Kurdek (1993)	Oberlander and Spencer (2006)	Albert and Wager (2003)
Authorship Credit	Contribution that is integral to the paper Collaborators decide activities which merit credit	Refer to authorship criteria from journals	Refer to ICMJE criteria
Authorship Order	Based on scholarly importance, not time spent on task; weighting schema may be useful	Descending order of relative contribution	Decided by authors
Minor Contributions	Acknowledge in footnotes	Acknowledge in footnotes with permission from contributors	Acknowledge in footnotes

Table 2. Comparison of Authorship Credit and Order Recommendations

Recommendation Category	Fine and Kurdek (1993)	Oberlander and Spencer (2006)	Albert and Wager (2003)
Authorship Discussions	Discuss early in the process	Discuss early and often Mentors convey beliefs on contribution Acknowledge power differential and work to reduce it	Discuss early Make decisions during the planning stages and keep a written record
Roles, Contributions, and Contracts	Balance the tasks required and the abilities of each party to complete them Written agreement is optional, but potentially useful	Clarify roles with a written agreement	Establish agreement before writing the manuscript
Student Support	n/a	Motivate students to take initiative, identify projects, and publish	Encourage a culture of ethical scholarship

Table 3. Comparison of Faculty-Student Discussion Recommendations

Recommendation Category	Fine and Kurdek (1993)	Oberlander and Spencer (2006)	Albert and Wager (2003)
Disputes and Ethical Dilemmas	Supervisors should consult colleagues; students should consult faculty and peers	Discuss options for resolving complaints	Refer to written agreement Determine if problem is a dispute or an act of misconduct by referring to ICMJE criteria; discuss and resolve accordingly

Failure to Resolve a Dispute	Ad-hoc third-party arbitration	n/a	In disputes, appeal the mentor's supervisor In acts of misconduct, remove names or contact the journal
Renegotiating Authorship	Revisit written agreement if project scope or direction changes	Revisit written agreement throughout the process	n/a

Table 4. Comparison of Disputes and Renegotiation Recommendations

All of these guidelines provide commendable recommendations for mentor-based research experiences. However, they are incomplete with respect to LIS doctoral programs, where students might be collaborating with faculty advisors, mentors, other students, practitioners, or collaborators in other disciplines, all of whom may have very different views on co-authorship. The next section provides additional recommendations to supplement current guidelines for fostering the growth and development of emerging LIS scholars.

INCLUDING AUTHORSHIP IN THE DOCTORAL CURRICULUM

Understanding authorship criteria and the ability to navigate authorship conversations are especially important skills for all doctoral students to develop and should be approached in a formal, systematic manner for all students equally. In LIS in particular, due to the field's increasing interdisciplinary nature (Chang & Huang, 2012; McNicol, 2003), and because LIS researchers are encouraged to collaborate with practitioners (Abbas et al., 2016; Knapp, 2012), researchers must understand basic tenets of collaborative authorship practices.

Due to the unequal power dynamics, however, faculty mentors should not be the only ones teaching authorship ethics. In order to better support LIS doctoral students' understanding of criteria and the complex procedure of assigning authorship credit and order, below are three recommendations for formally integrating support for doctoral students into the LIS curriculum, as a supplement to any mentorship activities that may already take place.

Recommendation 1: Supply authorship criteria and contributor roles

Rose and Fischer (1998) found students made better decisions regarding authorship credit when they were provided with authorship criteria. LIS programs should therefore incorporate authorship criteria into the curriculum as part of formal research experiences. The most common sets of criteria used in LIS (i.e., ICMJE and APA) should be included as part of the curriculum (e.g., research methods classes, doctoral seminars, or orientation). Students should also be encouraged to appreciate the breadth and depth of the writing process by assessing their own

activities vis-à-vis the Contributor Role Taxonomy (CRediT; (<http://credit.niso.org/>)); identifying these roles in their own work will support an broader understanding of the complexity of the authorship task. This will be especially important as students learn different methodologies and skills and tools supporting the research task, including ones that may be more or less common in LIS or in related disciplines. Instructing students on where to find authorship criteria and contributor roles used by specific journals or professional organizations both within LIS and outside the discipline to prepare for interdisciplinary collaborations should also be included in standard coursework, whether or not students are working collaboratively or independently. Furthermore, if an institution maintains an authorship policy, students should be made aware of how to locate it (e.g., a university research handbook).

Recommendation 2: Incorporate learning activities

To better support doctoral students' understanding of the complexities of defining authorship, advocating for position in authorship order, and how to deal with disputes or instances of misconduct, we recommend formal course-embedded activities to support understanding the real-world application of criteria. Some examples of activities are a reflective essay on authorship criteria, a critical analysis of an authorship rubric (e.g., Belwalkar & Toaddy, 2014; Warrender, 2016), or role-playing authorship negotiations or disputes (drawing from Spiegel and Keith-Spiegel (1970), Costa and Gatz (1992), or Rose and Fischer (1998)). Special emphasis on activities related to interdisciplinary collaborations will prepare students for potential scenarios they may experience after graduation if they collaborate with scholars from other disciplines.

Recommendation 3: Encourage authorship discussions

Previous research supports the practice of holding authorship discussions early and often in the research process (Goodyear et al., 1992; Netting & Nichols-Casebolt, 1997), and is a suggested practice by all three recommendations reviewed previously (Albert & Wager, 2003; Fine & Kurdek, 1993; Oberlander & Spencer, 2006). The practice of holding authorship discussions should be emphasized at all levels of instruction, in reflections, critical analysis, role playing simulations, and applied practices. None of the reviewed recommendations discuss interdisciplinary collaborations. As perceptions of what constitutes authorship are influenced by disciplinary cultures (Mauršic et al., 2011), conversations and mutual understanding within interdisciplinary teams are especially important, and should be practiced formally in a classroom setting to prepare students for collaboration in a variety of potential circumstances.

Overarching goal: Expertise in co-author practices

Ideally, by the time a doctoral candidate aims to publish dissertation research with an advisor, the student has a robust understanding of the authorship task and a solid skillset of self-advocacy and negotiation to alleviate or prevent disputes and mitigate misconduct. Students need to practice establishing and revisiting authorship credit and order throughout the research

process. If using an authorship rubric, students should ensure it aligns with the agreed-upon criteria and be able to vocalize any concerns to their supervisor and research team.

CONCLUSION

Collaborations involving students can sometimes result in disputes over authorship (Geelhoed et al., 2007). Although students can be found guilty of plagiarism and theft of scholarly work, they can also be the victims of scholarly theft or ghost authorship (Howard, 2008). Additionally, a substantial percentage of researchers believe they have been involved in incidents of unfair authorship practices, many attributing the problem of assigning too much or too little credit to students (Netting & Nichols-Casebolt, 1997; Sandler & Russell, 2005). Both scenarios have negative implications not only for students (Welfare & Sackett, 2010), but for the integrity of science (Caruth, 2014; Drummond et al., 1997; Gasparyan et al., 2013; Ngai et al., 2005). Students' supervisors must take responsibility for ensuring appropriate authorship in research papers (Goodyear et al., 1992; Welfare & Sackett, 2010) and proactively address practice; likewise, curricula in LIS doctoral programs are responsible for educating students across-the-board about authorship in collaborative research experiences; mentorship is good, but it does not suffice.

The recommendations presented in this paper aim to assist LIS doctoral programs with supplementing existing mentorship experiences with formal curricular activities related to navigating the complex and often difficult task of authorship, in both present and potential future (e.g., interdisciplinary) collaborations. Formal learning opportunities will allow students to gain experience in a structured environment, receive feedback from professors to improve their skills, and better prepare them to participate on research teams while in the doctoral program, and in research positions beyond graduation, including with their own future doctoral students.

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Information Literacy in Transition: Self-Perceptions of Community College Students

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ABSTRACT

Interviews were conducted with community college students in Florida and New York, two large, demographically diverse states, in order to determine students' self-perceptions of their information literacy needs. Understanding students' own perceptions of their information literacy needs can help colleges more effectively respond to those needs with instruction and support programs. The findings from this study have the potential to inform and transform the way we educate LIS students who are preparing to become instruction librarians, especially in community college settings.

ALISE RESEARCH TAXONOMY TOPICS

information literacy; academic libraries; specific populations

AUTHOR KEYWORDS

community college students; community college librarians

BACKGROUND

Interviews were conducted with community college students in Florida and New York for the purpose of determining their self-perceptions of their information literacy (IL) needs. Research has shown that community college students greatly overestimate their IL skills and that they are unlikely to gain proficiency on their own (Gross & Latham, 2011, 2012). Little is currently known about how these students perceive their own IL needs and how they perceive these needs in relation to their academic and career goals. Community college students represent a variety of backgrounds and have a range of personal and educational goals. Moreover, they are often older, working full or part time, with children to support (Dougherty, Lahr, & Morest, 2017; Rosenbaum, Ahearn, & Rosenbaum, 2016). Their ultimate success in meeting their goals hinges on a number of factors, one of which is undoubtedly their ability to find, evaluate, use, and create information effectively and efficiently. Unfortunately, relatively little is known about community college students' self-perceptions of their IL needs and the role of IL in students' successful transition from one phase of their life and education to the next.

IL instruction in institutions of higher education is also experiencing a time of transition. In 2016 the Association of College and Research Libraries (ACRL) replaced its *Information Literacy Competency Standards for Higher Education* (ACRL, 2000) with the *Framework for Information Literacy for Higher Education* (ACRL, 2016). While the former was largely prescriptive and skills based, the latter is more conceptual and focuses on threshold concepts, knowledge practices, and dispositions. Some have criticized the *Framework* as being “too complex” and not really relevant for community college students (Ludovico, 2017; Reed, 2015). The extent to which the *Framework* is being used in community colleges and its potential relevance (or lack thereof) to community college students is largely unknown.

To address these gaps in the research literature, students at community colleges in Florida and New York were recruited for interviews in spring 2020. These states both have large community college systems with diverse student populations (City University of New York (CUNY), 2019; Florida Department of Education, 2019; State University of New York (SUNY), 2019). The findings from these interviews are intended to address the following research questions:

RQ1. What are the self-perceptions of students concerning their IL needs?

RQ2. Do students’ self-perceptions of their IL needs vary based on their educational and career goals (transfer to university, enter the general job force, practice a trade, or join a profession)?

RQ3. Do students’ self-perceptions of their IL needs vary based on the type of instruction they receive (skills-based vs. threshold concepts)?

METHOD

Students were recruited from six community colleges—three in Florida and three in New York—in spring 2020 for interviews about their IL needs. To recruit participants, flyers were posted in key locations at each campus and announcements were made in general education classes. Students were told that they would be compensated with a \$30 gift card for participating in a 45-minute online interview to be conducted in Zoom. In the interview, students were asked about their educational goals; their experiences with searching for, evaluating, and using information; their experiences with IL instruction; and their perceptions of their IL needs. Each interview was audio recorded and then transcribed. Two members of the research team used NVivo Qualitative Data Analysis Software (QSR International, 2020) to code the interviews. The two coders independently coded a small subset of the interview transcripts and achieved a Kappa of 0.70. They then divided the remaining transcripts among them and completed coding on their own. Other members of the research team then analyzed the coded transcripts in order to address the research questions.

Participants

Thirty-four students participated in interviews—22 (65%) from New York and 12 (35%) from Florida. Twenty-three (68%) of the participants are female; 11 (32%) are male. Eighteen (53%) of the participants reported entering community college right after

graduating from high school. Most of the students (24 = 71%) are either in the middle or at the end of their degree program. Many different majors were represented among the participants, including humanities, music performance, math, biology, chemistry, journalism, accounting, childhood education, machinery, and mortuary science. The programs most frequently mentioned were computer science (3 = 9%), nursing (3 = 9%), and occupational therapy assistant (3 = 9%). Twenty-seven (79%) of the participants reported they are planning to pursue a bachelor's degree either immediately after they graduate from community college or at some point in the future. In terms of motivation, 19 (56%) stated they decided to attend community college for financial reasons (i.e., to get a better job in order to make more money), while three (9%) said that they were motivated by the desire to help other people.

PRELIMINARY FINDINGS

The results of the interviews provide important insights into the self-perceptions of the participants concerning their IL needs (RQ1). Interestingly, there were no discernible differences in students' self-perceptions of their IL needs based on their educational and career goals (RQ2). By the same token, it was not possible to determine whether students' self-perceptions of their IL needs might have varied based on whether they received instruction based on skills vs. threshold concepts, as none of the students indicated they had received instruction based on the ACRL *Framework's* threshold concepts (RQ3). Preliminary findings are presented and discussed below.

Information Literacy Experiences

In order to understand the context in which students are (or are not) using IL skills, they were asked to describe the kinds of school assignments they are given. The top four assignments were research papers (29 = 85%), tests (22 = 65%), essays (21 = 62%), and presentations (14 = 41%). Students were also asked about the kinds of IL skills and knowledge they felt one needed in order to be successful in school. The top skill by far was the ability to evaluate sources and information for credibility, currency, and relevance (21 = 62%). Other skills included writing skills (13 = 38%), accessing information (8 = 24%), using information (8 = 24%), and technology skills (7 = 21%). Several students mentioned skills that might be more properly considered study skills, such as how to study, how to manage one's time, and how to persevere in the face of challenges.

Almost all of the students expressed the opinion that IL was valuable in life, school, and work. In relation to their personal lives, students mentioned a variety of examples where their IL comes into play: gathering information about current events and politics, personal needs (ranging from hair care to health care), parenting, cooking, housing, product information, hobbies, and entertainment news. Several indicated that they often sought information in order to learn new things, develop their personal beliefs on various issues, and satisfy their curiosity. When searching for information, most of them use Google, YouTube, and other forms social media, although several noted the importance of going beyond social media in order to verify information. In terms of their school work, students reported using IL to accomplish a variety of tasks: using the

library, using databases, doing keyword searches, finding credible sources, citing sources properly, and avoiding plagiarism. They reported looking for information for class assignments, of course, but also for information to assist them with investigating four-year colleges, dealing with fake news, and forming their own opinions. Clearly, when it comes to information seeking and information use, students' academic lives and personal lives sometimes blend together. Students also commented on two other important skill sets related to IL in the school context—writing skills and computer skills. They anticipate IL being important on the job as well. In searching for a job, they realize they will need information to help them develop a resume and information about job openings. On they have a job, they expect that they will need to be able to conduct research, keep up with new advances in their field, and engage in problem solving that will require multiple information sources. In addition, many of them assume they will have to write and do presentations as part of their job, both of which will often require research.

Students also reported encountering a number of challenges related to finding, evaluating, and using information. Interestingly, most of the challenges they identified were related to finding information. Some of these were clearly connected with their level of IL, such as choosing a topic to fit the assignment instructions, knowing which databases to use and how to use them, selecting effective search terms, and even having basic computer skills. Additional challenges were finding too much information or not finding enough, finding current and relevant sources, and finding sources that were not biased. Information on very recent topics and very narrow topics could be especially hard to find. Other challenges with finding information were less related to IL per se, but were significant nonetheless. For example, several students had trouble accessing the library's website from home because of poor internet service. Others complained that sources they needed were not always available at their library. As for information evaluation, the biggest challenge students reported facing was determining which information is credible and which is not, but they sometimes encountered difficulties in finding relevant information in a form they could understand. The two biggest challenges with information use were knowing when and how to cite sources and being able to communicate their ideas effectively in writing.

When asked about the IL knowledge and skills they would like to improve, students focused mostly on the school context. Some of the skills were related to finding information: knowing where/how to find sources, becoming familiar with more databases and web search engines, getting better at developing keyword searches. Other skills related to evaluating sources, comparing sources, and determining the most relevant sources. And a few students mentioned critical thinking skills as an area they would like to improve on. Other skills were more related to effective information use: writing skills (including grammar and strategies for overcoming writer's block), following assignment instructions, and public speaking and debating skills (both of which were mentioned in relation to the work context).

Information Literacy Training

Students were asked how they learned what they know about IL. Most said that they had learned in a one-shot session provided by a librarian, typically within the context of a course they were taking. While several students reported that they had

received instruction in elementary, middle, and/or high school, most interviewees said that their IL instruction had occurred in college. The college courses most frequently mentioned were English composition and student success, but other courses were mentioned as well, including courses as diverse as accounting, environmental studies, and public speaking. Sessions that were embedded in a student success course (a course focusing on basic study skills, etc.) often included a tour of the library and basic information about how to access resources. Sessions provided in conjunction with other classes usually included more in-depth instruction on topics such as using a specific database, formulating a search query, evaluating sources, and citing sources. Six students (18%) said that they had taken a standalone course on IL.

In addition, to the one-shot workshop and the standalone course, other contexts for IL instruction were mentioned as well. A number of students stated that they had had one-on-one consultations with a librarian, instructor, or classmate. The kinds of help received ranged from developing search terms and locating sources to evaluating sources and formatting citations. Many students also mentioned working with tutors. Tutoring services were typically staffed by peer tutors, and often were located within or adjacent to the library. Interviewees talked about working with tutors in writing centers in order to get help with writing, grammar, and citations. Though writing centers were most frequently mentioned, several students also said they had consulted with tutors in math, accounting, and computer technology.

When asked about who had trained them in IL, 32 (94%) students identified their community college instructors, and 31 (91%) identified their community college librarians. By way of comparison, 16 (47%) recalled receiving IL instruction from K-12 teachers, while only 4 (12%) remembered receiving instruction from K-12 librarians. Students also mentioned learning from friends, peers, and classmates (9 = 26%) as well as from a family member (6 = 18%). Thirteen (38%) students said that their IL skills were mostly self-taught. They reported using Google a lot, and several noted that they had been using computers since they were young children. One said they felt that they already knew what they needed to know about IL.

Students were also asked about their preferred way to learn IL skills and concepts. Several strategies were identified, including watching someone else first, getting hands on practice, being able to ask questions, and learning from and with peers. In terms of format, many said that they preferred one-on-one instruction, but others said they preferred group sessions and at least one expressed the desire for an online tutorial. Several students noted the importance of passionate instructors, and one student offered the opinion that peer tutors were actually more effective than instructors and librarians. One participant made the astute observation that IL training should begin much earlier—in middle school, for example.

Finally, students were given the opportunity to describe what they found useful about the IL training they had received and what suggestions they had for improving that instruction. Thirty-three (97%) students expressed appreciation for the instruction they had received. They mentioned the helpfulness and availability of librarians, teachers who care, and peer tutors. One stated that they appreciated being forced to go to the library as part of class because otherwise they would not have done so on their own. As far as what they learned that they found useful, students discussed many different things: knowing about the various resources available, effective searching skills, evaluating sources, using

databases, using citation generators, and developing computer skills. Twenty-two (65%) students also offered suggestions for improvement. Some of the suggestions were more handouts on the resources available, more academic support for adult students going back to school, writing workshops in the library, librarians visiting classes, more one-on-one instruction, more online tutorials, and more computer skills instruction. One student suggested that IL instruction be incorporated into existing required classes, while another expressed the opinion that a library research course should be required of all students. Some of the suggestions had to do with increasing the availability of existing services. For example, one student discussed the importance of the library being open on weekends, another felt that instruction sessions should be offered more frequently, and yet another felt the library should do a better job of advertising its services

DISCUSSION AND CONCLUSIONS

The community college students in this study value IL, not just for school but also in their personal lives and for their anticipated work lives. They describe their IL experiences in terms of skills—finding, evaluating, and using information—rather than threshold concepts as articulated in the ACRL *Framework* (2016), which is not surprising given that there is no evidence that these students have been exposed to the *Framework* terminology. The information sources they prefer differ, depending on the context. In their personal lives, they tend to rely on Google and social media, while in their schoolwork they understand the importance of using databases and finding peer-reviewed publications.

The students feel that they need to improve their skills in finding, evaluating, and using information. This suggests that they are open to receiving IL instruction as well as instruction in improving writing and presentation skills. Many of them indicated that one-shot instruction sessions, while helpful, were not enough, and several advocated for a required IL course.

These findings have implications for both practice and research. They suggest that librarians have opportunities to incorporate threshold concepts into instruction, but also that they should not totally abandon skills-based instruction. The findings also suggest that working with instructors to embed IL into courses, while not a new idea, can be a most effective way to provide IL instruction and also that more time should be devoted to it than typically occurs with the one-shot session. The findings suggest additional research opportunities as well—conducting interviews with community college librarians, for example, and comparing skills-based approaches to approaches based on threshold concepts. Such research can contribute further to the field's understanding of how best to meet the IL needs of community college students, an understudied but important specific population in higher education. And, finally, the findings from this study have the potential to inform and transform the way we educate LIS students who are preparing to become instruction librarians, especially in community college settings.

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In the Shadow of the ACRL *Framework*: Current Instructional Practices of Community College Librarians

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ABSTRACT

While much has been written about information literacy instruction in higher education, community colleges and community college librarians have received less attention. A survey of 163 instructional librarians at community colleges in Florida and New York was undertaken to investigate instructional practices in community colleges as college and university librarians are working to incorporate the new ACRL *Framework for Information Literacy for Higher Education* (2016) into their instruction. Findings from this survey will be of use to librarians in high school, community college, and four-year college/university environments. They will also inform pedagogy in MLS programs preparing librarians for instructional work.

ALISE RESEARCH TAXONOMY TOPICS AND AUTHOR KEYWORDS

Information literacy, academic libraries; specific populations

INTRODUCTION AND LITERATURE REVIEW

Community colleges represent more than half of the postsecondary institutions in the United States. They are unique in that they prepare students for a variety of goals. Some students are training for careers, some are earning associate-level degrees (AA/AS), and some will transfer to a four-year institution of learning. Others may be doing remedial education to earn a General Education Diploma (GED), or they may be dual-enrolled high school students taking college courses that will put them ahead in college when they graduate. Community college students are often older, currently employed, responsible for children, and have limited resources (Dougherty, Lahr, & Morest, 2017; Rosenbaum, Ahearn, & Rosenbaum, 2016). The variety of backgrounds and goals these students represent offer special challenges for community college librarians concerned with equipping them with information literacy (IL) skills. The literature on

IL is expansive, yet little is known about current instructional practices in community colleges (Reed, 2015).

We are also in a time of transition as the Association of College and Research Libraries (ACRL) has made effective a new definition of IL by adopting the *Framework for Information Literacy for Higher Education* (2016). Moving away from a skills-based approach, the *Framework* asserts that “Information literacy is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning” (Introduction, para. 5). The *Framework* requires new thinking not only about what IL is but also how it should be taught and evaluated. This has created a profession-wide discussion in which some have questioned the appropriateness of the *Framework* for learners at community colleges, voicing concerns that it is “too complex,” not relevant to students’ career goals, and not possible to fully teach in two-year programs (Ludovico, 2017; Nelson, 2017; Reed, 2015). Others, such as Swanson (2014) disagree, asserting that the *Framework* should be used in the community college context. Now is a critical time to find out how community colleges are transitioning to the new ACRL *Framework*, as well as to document librarians’ perceptions of community college learners’ educational, occupational, and personal contexts and how these diverse needs are being met.

To begin to fill this gap in understanding, and provide a snapshot of current instructional practices that includes data on the implementation of the *Framework*, librarians at community colleges in Florida and New York were surveyed in the fall of 2019. These are the researcher’s home states, which, like other states, have strong community college systems that serve diverse populations (City University of New York (CUNY), 2019; Florida Department of Education, 2019; State University of New York (SUNY), 2019). The survey instrument was based on a survey employed in a national study of instructional librarians in the United States but tailored to the community college library environment (Julien, et al., 2018). The research questions addressed in this study are:

RQ1. What are the instructional practices of community college librarians responsible for IL instruction?

RQ2. What are the perceptions of community college librarians about student IL needs?

The objectives of this survey are broader than those of the recent Wengler and Wolff-Eisenberg (2020) survey, which focused on librarians’ use of the *Framework* in community colleges, but did not explore librarians’ beliefs about student IL needs. However, this survey, the previous national U.S. survey (Julien et al., 2018), and national surveys of Canadian librarians (Julien, 2000, 2006, Julien & Leckie, 1997; Julien, et al., 2013; Polkinghorne & Julien, 2019) do provide points of comparison for the study reported here.

METHOD

The first phase of this mixed method IMLS-funded project employed a survey of community college librarians in Florida and New York exploring their instructional practices and objectives, the effect of technology on their work, and their perceptions of their students’ IL abilities and needs. Preliminary results from the first phase of the project are reported here. In the

second phase of the mixed method design interviews were performed with 34 community college students enrolled in Florida and New York discussing their self-perceptions of their IL needs related to their educational, occupational, and personal contexts and future success. This phase of the study is reported elsewhere.

The survey of community college librarians was intended to study what instructional practice looks like in community colleges in Florida and New York, what is happening as community colleges transition to the ACRL *Framework*, and what perceptions librarians have about the IL needs of community college students. Its content was informed by a recent national survey of IL practices in academic libraries (Julien, et al., 2018), but was tailored to the community college context and refined based on input from the project advisory board. The survey was built in Qualtrics and a link to the survey was emailed to community college librarians in Florida and New York who were identified through publicly available information. A total of 760 emails were sent. There was no incentive or compensation offered for participation. The survey took about 20 minutes to complete and reminders to complete the survey were sent two times to potential respondents after the initial request for participation. In all, 163 responses were received resulting in a response rate of 21.4 percent. The survey results provide a record of the challenges community college librarians face in serving their academic communities at this time.

Participants

The librarians who responded to the survey included general librarians, reference librarians, instructional librarians, and librarians with managerial responsibilities. Almost half (46.6%, n=68) were working at colleges where the size of the student population was less than 10,000. About a third of respondents (31.5%, n=46) worked at colleges with student populations between 10,00 and 20,000. The remainder (21.9%, n=32) were from colleges with over 20,000 students enrolled.

In terms of who provides information literacy instruction (ILI) at community colleges, respondents indicated that responsibility is shared between full-time instruction librarians (48.6%, n=90) and reference/public service librarians (45.9%, n=85). It was also reported that other librarians on staff provide instruction (31.4%, n=58) and in the “other” category (16.2%, n=30) that ILI is also provided by part-time librarians, directors, system librarians, and associate instructors with related master’s degrees.

PRELIMINARY RESULTS

The results of this survey illuminate many aspects of instructional work among librarians at community colleges; among these are the topics covered and methods used to provide IL instruction, the proportion of students exposed to IL instruction, librarian views of student IL needs including the strengths and challenges students face, and the incorporation of the *Framework* into instruction.

Preliminary findings indicate that the majority of respondents (99.3%, n=147) offer IL instruction, and 94 percent offer IL classes. The most frequent topics covered include online databases (70.3%, n=130), search strategies (66.5%, n=123), library use in general (65.9%,

n=122), citation formats (60.0%, n=111), catalogue/OPAC (58.4%, n=109), and the Internet/web (53.0%, n=98). All other topics were indicated by less than 30 percent of respondents. The most frequent methods of instruction were individualized instruction (64.9 %, n=120), hands-on instruction in a computer lab (63.8 %, n=118), one-shot instruction (58.9%, n=109), lectures/demonstrations in subject classes (57.8%, n=107), and pathfinders or subject guides (55.1 %, n=102). All other forms of instruction had frequencies of less than 40 percent.

Among those who felt comfortable estimating numbers, 33.0 percent (n=43) report reaching more than 50 percent of the students on their campus with IL instruction and about 37.6 percent (n=50) are reaching fewer than 50 percent. The remaining respondents either felt they could not estimate their reach (27.8%, n=37) or entered other comments about their campus (1.5%, n=2). Respondents identified their instructional focus as mainly first-year students (62.7%, n=116), students in certain subject disciplines (61.1%, n=113), students in degree programs (53.5%, n=99), and high school students dual-enrolled at the college (42.2%, n=78). All other responses represented less than 30 percent of responses.

Information Literacy Instruction and the *Framework*

Use of the *Framework* to inform IL instruction has begun, but is not pervasive. Only 22.3 percent (n=21) said that the *Framework* has informed their work. About half (56.4%, n=53) said the *Framework* has had a minor influence and the remaining 21.3 percent (n=20) said their work is not informed by the *Framework* at all. Among those who say their work has been influenced by the *Framework*, this has mainly been a change in their conceptual approach toward instruction, which has resulted in a more active and hands-on approach. Opinions about the *Framework* were lackluster. Only 17.8 percent (n=33) of respondents felt it important for community colleges to make the *Framework* part of instruction. Others said that the *Framework* is not suited for one-shot instruction (24.9%, n=46), that not all of the frames are relevant for students' learning goals, that two-year programs are too short for students to assimilate *Framework* concepts (14.1%, n=26), and that the *Framework* is not suited for use in community colleges (8.6%, n=16).

Interestingly, when asked what frames are relevant to student success, 39.5 percent (n=73) chose Searching as Exploration, 37.3 percent (n=69) said Research as Inquiry, 33.0 percent (n=61) chose both Authority is Constructed and Contextual and Information has Value, 23.8 percent (n=44) chose Scholarship as Conversation, and 22.2 percent (n=41) chose Information Creation as a Process. Resources that these librarians have used in working to implement the *Framework* include articles about the *Framework* (26.5%, n=49), workshops (11.4%, n=21), ACRL Sandbox (8.6%, n=16), "other" (7.7%, n=13), and training provided in their library (3.8%, n=7).

Perceptions of Student Information Literacy Needs

Respondents see students' primary information needs as knowing how to evaluate information (56.8%, n=105), understanding general research strategies (51.4%, n=95), and knowing how to find information in various sources (47.6 %, n=88). All other responses were under 36 percent. The highest response level concerning students' strengths is the perception that

they are aware of technological innovations (29.7%, n=55). All other perceived student strengths were noted by 1.1 percent (n=2) for understanding the concepts in the ACRL *Framework*, to 16.2 percent (n=30) for understanding general research strategies. The most common perception of weakness in student IL skills was knowing how to evaluate information (50.3%, n=93). It was the only category to reach this level of consensus. Understanding the ACRL *Framework* concepts as a weakness came in at 30.3 percent (n=56).

When asked what skills or knowledge they think students see as important to success, there was less than 50 percent agreement on any perception. The most shared responses were knowing how to find information in various resources (37.8%, n=70), awareness of technological innovations (22.7%, n=42), and understanding general research strategies (21.6%, n=40). All other responses were under 18 percent.

DISCUSSION AND CONCLUSIONS

Survey results describe the instructional practices of community college librarians in Florida and New York who participated in the study. While the findings cannot be generalized, the data provide a snapshot of the community college context in two states that is largely similar to the findings of Julien, Gross, and Latham's (2018) national survey of librarians who do instructional work in academic libraries. One difference is that a larger proportion of these respondents say that the *Framework* is not impacting their instructional practices, even though the national survey was conducted over three years ago. This survey suggests that acceptance of the Frames in community colleges has been a slow process and that new strategies and more research may be needed to aid in its adoption at this level in higher education. That the *Framework* has yet to be embraced in this context confirms concerns found in the literature (Jackman & Weiner, 2017; Ludovico, 2017; Reed, 2015).

Findings also differ from those of a recent national survey of community college librarians (Wengler & Wolff-Eisenberg, 2020), which found a higher utilization of one-shot information literacy sessions (97%) than seen in this survey and a greater frequency of respondents (19%) reporting that their institution has a credit-bearing IL course. The Wengler and Wolff-Eisenberg study also found more use of resources to aid in implementing the *Framework* as well as a stronger sense among respondents that the Frames are relevant to student success and instructional practices.

Findings also largely agree with findings from the Canadian national surveys (Julien, 2000, 2006, Julien & Leckie, 1997; Julien, et al., 2013; Polkinghorne & Julien, 2019), which was last undertaken four years ago. One difference that stands out is that more U.S. librarians have ILI as their primary job responsibility, whereas in Canada, this responsibility is shared among reference librarians. Librarians in both countries are concerned about buy-in for their work among students, faculty, and administrators. The latest Canadian survey included questions about the ACRL *Framework*, and found that for 32 percent of respondents the *Framework* has had a significant impact on their instruction (Polkinghorne & Julien, 2019).

These data are important as they capture IL instruction during a time of transition and will be of use to librarians in high school, community college, and four-year college/university environments. These data can provide a point of comparison for other venues as well as insight

into perceptions that can facilitate or constrain ILI and adoption of the *Framework* in higher education. Further, they contribute to filling a gap in the literature on ILI instruction and adoption of the *Framework*, which has not been as robust in terms of understanding the work in community colleges, which are important players in the landscape of institutions of higher education. The results of this research are also important as they will inform pedagogy in MLS programs preparing librarians for instructional work. In this way, this paper supports the conference theme of the transformation of LIS education.

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Critical Incidents and Librarian Professional Identity in LIS Pedagogy: Research Methodology as Pedagogical Tool Embedded in Reflexive Practice

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ABSTRACT

Traditional conceptualisations of the library profession have been challenged due to persistent societal change, similarly affecting professional education. Challenges resulting from such change can be understood as uncertainty of definition and fit in society, and thus a questioning of professional identity. Examinations of professional identity offers potential in practice when introduced in the educational context. This paper outlines a pedagogical tool adapted from a method used in research investigating public librarian professional identity in New Zealand. The tool leverages the elicitation of critical incidents, along with guided questions, to prompt examination of professional identity. The tool is embedded within reflexive practice, creating a framework to understand and engage within increasingly interconnected and changing contexts.

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ALISE RESEARCH TAXONOMY TOPICS

education programs/schools; pedagogy; research methods; students

AUTHOR KEYWORDS

critical incidents; professional identity; reflexivity; reflexive practice; librarians; library and information science education

INTRODUCTION

In the face of persistent societal changes, traditional conceptualisations of the library profession have been challenged. While previous discussions of the so-called crisis have had various foci (e.g., Bak, 2002; Bennett, 1988; Harris, 1992), these dynamics outline a profession in transition. This professional transition underscores questions of definition and fit of the library and the librarian in modern society. At their core, these are questions of professional identity of practitioners in a social institution characterised by a co-constructed relationship. Professional identity is the product of the impact professional and/or organisational life has had on one's perception of their identity within its context (Whyte, 1956/2002), influencing behaviour and discourse (Sundin & Hedman, 2009). Professional identity, therefore, plays a key role within co-constructed relationships, which characterises the modern practice of librarianship.

The library profession's education is similarly affected as it also sits within the context of persistent change and institutional structures (Drabinski, 2016). For many entrants, professional identity development begins in professional education. This early developmental phase presents the first opportunity for many entrants to initialise an understanding of librarian professional identity and begin embedding it within self-perception (Pierson et al., 2019). Formal education provides opportunities for profession-specific socialisation and initial conceptualisation of individual relationship to the broader profession (Pierson et al., 2019).

For example, differences among educational institutions may have an impact on identity construction, such as through programme emphases and offerings (Hussey & Campbell-Meier, 2016). It also has been suggested that content is a stronger influence than medium of instruction as related to professional identity construction (i.e., online and/or in-person) (Hussey & Campbell-Meier, 2016, p. 354). This would further suggest first, that the nature of social interaction is a key contributor to any associated dynamic regardless of instructional model, and second, that core courses help develop shared values within the profession and a practitioner's individual identity understanding.

Examination of professional identity offers potential for long-term benefit for practitioner and profession in an increasingly interconnected information and professional world. Its examination in the educational environment is advantageous in the professional identity developmental process and adaptable to local context. This paper builds on previous discussions on broad opportunities of examining professional identity in library and information science (LIS) education (Pierson et al., 2020b).

OBJECTIVES

The objectives of this paper are:

1. Outline how methodology used in a research context can be adapted as a pedagogical tool to prompt professional identity reflection to develop awareness into future practice.
2. Embed the pedagogical tool within reflexive practice as an effective framework to understand and engage with persistent change.

STUDY CONTEXT

The proposed pedagogical tool is derived from a doctoral research project examining the professional identity of public librarians in New Zealand. Adopting a mixed-methods approach, Phase 1 used a questionnaire to operationalise aspect of a developmental model of librarian professional identity (Pierson et al., 2019). Phase 2 consisted of in-depth follow-up interviews with participants purposefully chosen based on responses to open-ended questions, including critical incidents, in the questionnaire (Pierson et al., 2020a).

Critical incident exploration was a key aspect of the overall research project, highlighting behaviour and its effects (Flanagan, 1954), as relating to librarianship. Among the open-ended questions in the questionnaire, respondents were asked the following:

1. Think of an important event or events that has/have impacted your identity as a librarian. Please describe the event(s).
2. Please elaborate on what specifically made the event(s) impactful to your identity as a librarian.

Follow-up interviews involved discussion on the incidents provided in the questionnaire. After respondents had elaborated on the incident(s), they were asked to confirm the overall sentiment of the incident, whether positive, negative, or including aspects of both. Following this, respondents were prompted for another critical incident with a sentiment opposite to the one provided in the questionnaire. If sentiment included aspects of both, the additional critical incident was prompted in a general way.

Each discussion around critical incidents in interviews was accompanied by three questions:

1. Why do you think this was the incident(s) you thought of?
2. How do you think it influenced your professional identity?
3. Why do you think it influenced you the way it did?

These questions prompted reflection on the subsequent influences of critical incident(s) on professional identity. They further prompted reflection on how examinations of these questions play a role in perceptions of the profession and undertaking library practice as related to incidents and professional identity. These questions can be understood to represent identity examinations and negotiations, whose nature is to explicitly examine a visceral process (Pierson et al., 2020b). Thus, those engaging with these questions may benefit from prolonged exposure to them (Pierson et al., 2020b).

PEDOGOGICAL TOOL

The following is a discussion outlining an example adaptation of the proposed pedagogical tool, suited to the nature of the questions being posed. It is important to note this is one interpretation of the form of the tool itself, which is suggested to be adaptable to local contexts and needs. The tool takes the form of a term-long assignment within the graduate education context. It is designed around three central topics for student self-exploration: critical incident(s), librarian professional identity, and reflexivity. The structure of the assignment includes three principle parts. See the appendix for the assignment outline.

Part 1: Reading & planning segment

Students are first tasked with creating a schedule or plan indicating when each part of the overall assignment and its associated submissions will be addressed. Students will outline the action-items associated with each part (suggested naming is provided) and they must determine when each segment is to be completed. If there is a deliverable, the date they indicate is the date it must be submitted to the instructor. The ethos adopted by this tool emphasises a student-centred approach. It provides students with the ability to take control and ownership of this assignment from the beginning. It mirrors professional practice in creating a need for and promoting self-directed planning, schedule making, and time management. Additionally, it applies these developed skills and competencies in an authentic way to the students' lives, which may include full- or part-time work, study, or other demands on time. Finally, it offers potential to be complimented within any module or unit addressing professional development, which in many professional, national, and cultural contexts is self-directed, and thus involves an element of initiative

The first deliverable is this plan, outlining action-items and due dates. This segment also outlines the required readings scaffolding the entire assignment. The first reading reviews relevant literature on librarian professional identity and outlines the process of this identity development (Pierson et al., 2019). The second reading offers a general introduction to reflexivity (Archer, 2013), while the third reading situates reflexivity within professional identity development in the higher education context (Ryan & Carmichael, 2016). These readings offer a foundational introduction to the core concepts of the assignment, each with a distinct advantage: the first presents an overview of previous research and a developmental model focused on process, not an essentialist presentation of identity to which entrants should aspire; the second allows for introduction to reflexivity in a general way, allowing students to contemplate on it before applying it; and the third allows students to examine how professional identity and reflexivity are linked without undue leading through use of literature on a cognate profession. Use of the third paper therefore avoids potential mimicking of content in what is a tool tailored to be personalised to the student.

Part 2: Critical incident exploration

If already in practice, the students are next asked to reflect on a critical incident in their professional life they consider having impacted their professional identity. If students have not yet been in practice, they are asked to reflect on a critical incident in their life involving a library/archive/information institution they consider as influential and might be brought into their professional identity.

Submission part 2A will ask them to specifically consider the following questions and communicate responses in 250-500 words collectively, with emphasis on description:

1. Think of an important event or events that has/have impacted your identity as a librarian/archivist/information professional, library user/archives user/information professions user. Please describe the event(s).
2. Please elaborate on what specifically made the event(s) impactful to your identity as a librarian/archivist/information professional, library user/archives user/information professions user.

Submission part 2B asks students to reflexively engage with the critical incident(s) and associated meaning they have described. The emphasis here is on analysis. Specifically, they will consider the following questions in 800-1000 words collectively:

1. Why do you think this was the incident(s) you thought of?
2. How do you think it influenced your professional identity?
3. Why do you think it influenced you the way it did?

Part 3: Final reflexive essay

The final part of this assignment is a short, 1000-1500 word essay, bringing all parts of the assignment together through the central question: “What does it all mean for your professional identity in professional practice?” Students are asked to analyse the incident(s), focusing on what was learned from the three reflexive questions, and consider any benefits, detriments, and impacts to professional identity, practice, and overall development within an LIS capacity and associated sectors..

The emphasis in this essay is on analytical writing situated in research. At minimum, this is intended to mean drawing on the required readings within this assignment. Students are, however encouraged to draw on other readings in and outside of the given course. To support this specific aspect of the assignment beyond readings already mentioned, a supplemental reading list is provided (Angelides, 2010; Flanagan, 1954; Hicks, 2014; May & Perry, 2012; McKinney & Sen, 2012; Pierson et al., 2020a; Sundin & Hedman, 2009).

Bracketing

Throughout the assignment, students are provided with sufficient information to understand what is being asked of them and the parameters they can expect to operate in without undue burden. For example, definitions of critical incident(s), guiding questions, and specific reassurances. The required readings provide in-depth discussions from LIS and related literature to develop an understanding of the core topics of exploration. Questions interspersed through the assignment outline support critical engagement with each part of the assignment, providing students with some form of direction balanced with individual latitude. Finally, in its proposed form, the tool offers written reassurance that:

- They are encouraged to share only what they deem relevant and are comfortable with sharing;
- Only the instructor will see and read what is shared.
- This is not psychological assessment, but it is engaging with reflexive practice in an individually meaningful way as it applies to LIS and associated contexts.
- Assessment will not be on the content of any incidents, rather the quality of engagement with the prompts and in communication through the written assignments.

REFLEXIVE PRACTICE

The proposed pedagogical tool thus introduces entrants to reflexive practice in an authentic way (e.g., Myers, 2010). Its proposed design brackets the tool with an introduction to reflexive practice and its relation to professional identity. Reflexivity indicates a ‘bending back’ on one’s perception in reflecting on a topic (Archer, 2013). Reflexivity is often framed around the metaphor of the driver as the knower, the road as the known, and the windshield as the way to know (May & Perry, 2012).

Archer (2013) offers a discussion on the “fuzzy” boundaries of reflexive and reflective practice, indicating further adaptability. Indeed, reflexivity can be understood to extend reflective practice, thus offering the ability to include discussions of reflective practice within the present tool or associated module or unit. Reflexive practice, however, moves beyond reflective practice in order to prompt consideration on ways of knowing, influences on those ways, and how those ways influence interactions within practice. This consideration is continuous, iterative, and alongside others (e.g., practitioners and patrons) whose ways of knowing may differ in a constantly changing environment.

Reflexive practice, therefore, is underpinned by identity. The understandings derived from the ‘bending back’ on an individual’s way of knowing are a type of self-analysis which develop professional identity, whose outcomes are embedded into subsequent professional actions and identity perceptions (Ryan & Carmichael, 2016).

DISCUSSION

The proposed tool offers a number of distinct benefits. Regarding format, it mirrors practice by creating a need to develop time management skills. The tool’s incremental design allows for critical engagement to be developed over time with the introduction of new concepts and aspects to consider, whether from the student or from literature. This aspect allows students to benefit from prolonged exposure to reflexive analysis and the questions provided, as it is suggested such prolonged exposure may be necessary (Pierson et al., 2020b). The tool as proposed is one iteration, and can be adapted to a different assignment format or local need. Moreover, it can complement other, related content, such as continued professional development. The adaptability of the tool is beneficial to educational contexts whose curriculum faces changes in response to changing professional practice contexts and programmes that may not be able to offer time to this topic beyond a sub-unit or self-directed assignment.

Criteria of assessment, however, have been omitted from the present discussion in the interest of adaptability to local contexts and curricula. Additionally, it is self-directed, making it thematically cogent for self-reflexive examination over a period of time. Self-direction within the assignment is a key feature. A purpose of this assignment is situating individual experience and reflexivity as they relate to the students’ current and/or future professional practice. Professional identity includes highly personalised aspects (Pierson et al., 2019). Reflexivity and reflexive practice include examinations of individual ways of knowing, not only continuously, but with reference to others’ ways of knowing (Pierson et al., 2020b), in constant contexts of change. As such, this pedagogical tool is student-centred and underpinned by a student-led approach.

The nature of the final submission creates a mechanism for students to combine all of the elements of this assignment in a critical, reflexive way, placing their analysis and themselves within the literature. This supports development of reflexive analysis, and thus reflexivity in practice. What is key to understand is that the proposed pedagogical tool is linked to entrants' future practice in a profession characterised by persistent change and co-constructed relationships. Reflexive practice acts as a way to examine individual 'ways of knowing', identity, and influences upon them. As such, it creates a framework to understand and engage within the context of increased interconnectedness, globalisation, growing diversity (and its impediments), and broad advocacy efforts for both professional practice and higher education.

LIMITATIONS & FUTURE RESEARCH

This paper presents a pedagogical tool derived from research learnings. It has not yet been applied in the classroom. Future research, therefore, could explore its applicability in the classroom. Future research could also explore alternative formats for this tool.

CONCLUSION

This paper outlines a pedagogical tool adapted from a research method in research examining professional identity of public librarians in New Zealand. This tool leverages critical incidents, examined with guided questions, to prompt examination of professional identity. This pedagogical tool is underpinned by reflexive practice, creating a framework to understand and engage within increasingly interconnected contexts.

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APPENDIX

Reflexive practice and professional identity assignment*

Purpose: The purpose of this assignment is to provide you with an opportunity to explore how critical incidents play a role in shaping professional identities and how this is brought into our professional practice. This assignment situates your individual experience and reflexivity as they relate to your current and/or future professional practice in library and information science (LIS) or galleries, libraries, archives, museums, records (GLAMR) contexts.

You will explore:

- A critical incident(s) in your personal or professional life, related to libraries, archives, knowledge institutions, or the wider GLAMR sector that has/have impacted you and your identity as it relates to such institutions.
- Librarian professional identity. What is it? How is it distinct? How is it formed? What is your sense of your own professional identity?
 - Reading 1: Pierson, C. M., Goulding, A., & Campbell-Meier, J. (2019). An integrated understanding of librarian professional identity. *Global Knowledge, Memory and Communication*, 68(4/5), 413-430. <https://doi.org/10.1108/GKMC-01-2019-0008>
- Reflexivity. Reflexivity is often framed around the metaphor of the driver as the knower, the road as the known, and the windshield as the way to know (May & Perry, 2012). In order to understand reflexive practice and its relationship to identity and professional actions in practice, we must first understand what reflexivity is.
 - Reading 2: Archer, M. S. (2013). Introduction. In M. S. Archer (Ed.), *Conversations about reflexivity* (pp. 1-14). Routledge.
 - Reading 3: Ryan, M., & Carmichael, M.-A. (2016). Shaping (reflexive) professional identities across an undergraduate degree programme: A longitudinal case study. *Teaching In Higher Education*, 21(2), 151-165. <https://doi.org/10.1080/13562517.2015.1122586>

The aim is to consider these elements as they relate to yourself and your position within LIS/GLAMR contexts, to critically engage with and analyse them.

There are 4 submissions making up this assignment:

Reading & planning segment
 Critical incident exploration (Part A: 250-500 words; Part B: 800-1000 words)
 Final reflexive essay (1000-1500 words)

1: Reading & planning segment

You will first create a plan for self-directed critical engagement throughout the term. It will be up to you to structure a schedule to engage with, at minimum, readings 1, 2, and 3 and the prompts outlined in the following sections. The due dates you provide will be considered final and subject to relevant university policies. The plan will outline a schedule detailing when each segment will be addressed. If there is a deliverable, the plan will also outline when it is due to the instructor. All assignments are to be completed and turned in no later than the week before the final week of term.

Submission Part 1

The plan itself may be as detailed or as simple as you like, e.g., annotated bullet points. It must, however, include the action-items listed below and their corresponding due dates.

Readings 1, 2, 3

Critical incident exploration

Part A

Part B

Final reflexive essay

The plan is due: _____

2: Critical incident exploration

Critical incidents were introduced as complete occurrences to a person, allowing inference and prediction, whose consequences are unambiguous and thus critically influencing that person in some way (Flanagan, 1954). Modified definitions emphasise ‘critical’ and incident as based on the meaning and perception given to them by the person who experienced it (Angelides, 2010). Critical incidents have been linked to world- and self-view, indicating an influence on perception as grounded through identity and may also incorporate on-going, situational elements (Pierson et al., 2020).

Submission Part 2A

You will reflect on a critical incident(s) in your professional life which you consider having impacted your professional identity. If you have not yet been in practice, reflect on a critical incident in your life involving a library/archive/information institution which you consider having impacted you and which you think might be brought into your professional identity.

Consider and address the following questions in 250-500 words collectively:

1. Think of an important event or events that has/have impacted your identity as a librarian/archivist/information professional (or library user/archives user/information professions user). Please describe the event(s).
2. Please elaborate on what specifically made the event(s) impactful to your identity as a librarian/archivist/information professional (or library user/archives user/information professions user).

The emphasis here is on description of the incident(s) and reflection on what specifically made the event(s) impactful to your identity.

Submission Part 2B

Now that you have identified your critical incident(s) and what made it so impactful, consider the following reflexive questions in 800-1000 words collectively:

1. Why do you think this was the incident(s) you thought of?
2. How do you think it influenced your professional identity?
3. Why do you think it influenced you the way it did?

These questions prompt reflection of the influences of your critical incident(s) on your professional identity. They prompt further reflection on how these examinations play a role in perceptions of the profession and undertaking library/information professions practice. The emphasis here is less on description and more on analysis of your critical incidents through the questions above.

3: Final reflexive essay

Submission Part 3

For the final essay, you will write a short 1000-1500 word piece tying everything in this assignment together. What does it all mean (or what do you think it will mean) for your professional identity in professional practice?

Analyse the incident(s), focusing on what was learned from your answers to the three reflexive questions, and consider any benefits, detriments, and impacts to your professional identity, professional practice, and overall development within an LIS/GLAMR capacity. The emphasis here is less on description - aim not to review what you have done in previous submissions and instead focus more on analysis. It is advised that you connect your analytical writing to research, both in and outside of the course readings.

Important Notes:

- While it is up to you when and how you address the readings, it is encouraged to take your time to fully engage with and absorb them. Often what is taken to be dense on a first reading comes easier with a second reading.
- Not all incidents will be the same, nor necessarily pleasant ones. You are encouraged to share with the instructor only what you deem relevant and are comfortable with sharing. Only the instructor will see and read what you share.
- The goal here is *not* psychological assessment, rather to begin engaging with reflexive practice in an individually meaningful way as it applies to LIS/GLAMR contexts. As such, assessment will not be on the content of any incidents, rather the quality of engagement with the prompts and in communication through the written assignments.

- Finally, something important to consider is the nature of change in the context of all the elements this assignment draws together and what you bring together in your final reflexive essay. Have you noticed a change in your perceptions of the incident(s) from when it initially transpired to now? If so, how? How might any changes be reflected in your answers to the three reflexive questions? Moreover, it is important to consider the nature of change as it relates to the LIS/GLAMR contexts. The information professions are tasked with accommodating great change as we move further into the digital age. Recall that Archer (2013) tells us reflexivity is that “self-referential ‘bending back’” on our ways of knowing, implying a necessity for persistent reflexivity as contexts, and ourselves within in such contexts, change.

Supplemental Readings

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Bridging the Gap: Employer, Librarian, and Educator Perspectives on Instructional Librarianship

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ABSTRACT

This study compares the perspectives of academic library administrators, library school educators, and academic librarians with respect to academic instructional librarianship. A 9-item questionnaire was administered to N=14 educators, N=10 library administrators, and N=13 instructional librarians. The survey asked about the character of instructional librarians, their job preparation, library school training, job duties, and assessment. Responses indicate a general agreement among the 3 populations regarding desirable skills and traits, but some disagreement exists between administrators and others regarding assessment. Results suggest that further consideration is needed about the nature and necessity of instructional librarian training in graduate library schools.

ALISE RESEARCH TAXONOMY TOPICS

information literacy; pedagogy; curriculum; education; reference transactions; academic libraries; teaching faculty

AUTHOR KEYWORDS

library instruction; pedagogy; academic libraries; teacher training

INTRODUCTION

In recent years, instruction has assumed an increasingly prominent role in the job duties of many academic librarians. While the extant published literature on the topic dates back well over a century (Adams, Ames, Rathbone, & Little, 1898; Shaw, 1928; Harris, 1934), in the past few decades, the instructional role has evolved from offering a generic orientation to the library for new students to developing full-fledged courses designed to match the curriculum of academic programs (Griffin & Clarke, 1958; Julien & Leckie, 1997; Mardis, 2017; Rubin, 2017). Consequently, just as instructional ability and experience have become highly-valued, sought-after traits among library administrators (Eckard, Rosener, & Scripps-Hoekstra, 2014; Johannsen, 2015; Rubin, 2017) so too has training for instructional librarians emerged as one of the most significant topics in academic librarianship (Julien, 2000; Walter, 2008; Hall, 2013).

Historically, some authors have identified a disconnect between the training students receive in Master of Library and Information Science programs and the actual duties and responsibilities they encounter in the profession. In response, professional organizations such as

the Association of College and Research Libraries (ACRL) acknowledged the absence of satisfactory training for instructional librarians and established proficiencies and standards for the field over the course of the 1980s (Wittkopf, 1990; Patterson & Howell, 1990; Association of College and Research Libraries, 2017). More recently, several studies have examined those teaching traits that are most highly valued by instructional librarians and library administrators. Instructional design (Egbedokun, Oteyola, Akinlabi, Adejumo, & Ayodele, 2017), presentation skills (Johnson, Jent, & Reynolds, 2007; Johnson, Sproles, & Detmering, 2011), online instruction/distance teaching (Julien, Gross, & Latham, 2018), and planning and leadership (Sproles, Johnson, & Farison, 2008) have all been viewed as desirable competencies in instructional librarianship. There remains disagreement, however, where the instructional librarian may best acquire these skills. As suggested by the work of Brundin (1985) and Click & Walker (2010), the best preparation for teaching roles may be in other academic programs or through on-the-job experience; however, many authors believe that the role of instructional librarian training should fall squarely upon LIS programs (Hogan, 1980; Larson & Meltzer, 1987; Meulemans & Brown, 2001; Sproles, Johnson, & Farison, 2008; Westbrook & Fabian, 2010).

At the same time, among those who believe that LIS programs are responsible for teacher training, there is disagreement about how effectively these programs currently prepare students. Kilcullen (1998) identified several areas in LIS curricula that needed attention in order to prepare aspiring instructional librarians for their future roles, from a broader engagement with instructional design and theory, to a greater emphasis on public speaking, and collaboration. Julien (Julien & Boon, 2002; Julien, 2005; Julien, Gross, & Latham, 2018) has played a significant role in identifying the foci of LIS teacher training courses and potential gaps in this training.

One of the most comprehensive assessments of instructional librarian proficiencies to date is offered in Shonrock and Mulder (1993). In this study, the authors identified the 25 most important proficiencies for instructional librarians and had survey respondents (who were themselves instructional librarians) indicate where they acquired the proficiency and whether it should continue to be emphasized. For most of the teaching-related proficiencies, the majority of respondents acquired the proficiency outside of library school and suggested that others do so through a combination of formal education, continuing education/workshops, mentorship, and on-the-job experience. Additionally, the about one-third to one-half of respondents reported that other formal education (such as a bachelor's degree in teaching) contributed to their acquisition of skills necessary to be an instructional librarian. These findings suggest that LIS programs may not have been the ideal place for instructional librarians to acquire teaching skills, based on these individuals' self-responses. However, the Shonrock and Mulder study is now nearly 3 decades old. With sweeping changes to the library and information science landscape over the past 3 decades, a reassessment of these topics is warranted.

RESEARCH PROBLEMS

There are four research problems for this study:

- RP1: It is not well known what skills or traits make instructional librarians successful in their positions in academic libraries and whether these qualities are innate, temperamental, or acquirable.
- RP2: It is not well known where academic instructional librarians are prepared to perform their job duties, whether on the job, through previous work experience, professional training, library school, or somewhere else.
- RP3: It is not well known what the essential job duties of academic instructional librarians are today—what they do in their positions.
- RP4: The perspectives of practicing instructional librarians, academic library administrators, and library school educators have yet to be compared.

RESEARCH QUESTIONS

There are four research questions for this study:

- RQ1: What skills or traits are necessary for academic instructional librarians to perform well in their job?
- RQ2: Where do they instructional librarians acquire these skills or traits?
- RQ3: What are the job duties of academic instructional librarians?
- RQ4: How do the perspectives of librarians, administrators, and educators compare with respect to academic instructional librarianship?

RESEARCH PURPOSE

This study surveys academic instructional librarians, academic library administrators, and library school educators in the United States and Canada in order to: 1) identify what skills or traits make academic instructional librarians successful, 2) describe how these skills or traits are acquired, 3) describe the job duties of academic instructional librarians, and 4) compare the perspectives of library school educators, practicing librarians, and administrators. The results of this study are significant for practicing and prospective academic instructional librarians, academic library administrators, and library school educators.

METHODS

This study adopted a survey approach. The three populations examined in this study were academic instructional librarians, academic library administrators, and library school educators in the United States and Canada. The study proceeded in three stages: 1) source collection, 2) data collection, and 3) data analysis. In the source collection stage, an interview protocol was developed and piloted, a survey sample was created, and surveying was conducted using structured interviewing (Rubin & Rubin, 2012). Data collection used qualitative content analysis to develop a coding frame, pilot it, and code the interview transcripts using NVivo (Schreier, 2013). Data analysis used Excel to interpret and visualize the results. During interviewing, a protocol of 9 questions was administered to a total of N=37 participants. To ensure geographical representation, samples included participants from institutions across 7 regions in the United States and Canada. To ensure institutional representation, participants were included from four institution types: research universities, public teaching universities, community colleges, and

liberal arts colleges. Samples of librarians and administrators were selected at random from institutions of each type in each region.

RESULTS

Question 1: What skills/traits of instructional librarians do you believe are most important for them to perform well at their job duties?

Overall, the skills and traits that participants indicated were most important for instructional librarians were: communication, core skills (i.e., “soft skills,” customer service), and instructional design. Less commonly noted skills/traits included knowledge of information literacy, emotional intelligence, reflection, cultural humility, and professional curiosity. There was some disagreement among the study populations in response to this question. Adjunct educators, for example, noted communication as an important skill at a greater rate than the other three populations. Instructional librarians and adjunct educators (many of whom were themselves also instructional librarians) indicated that core skills were important at a much higher rate than full-time educators and administrators, while educators (both full-time and adjunct) and administrators identified instructional design skills as more important than practicing instructional librarians. The traits that received the most consistent responses across all populations were knowledge of information literacy and reflection, though each of these skills were indicated by less than 40% of the total respondents for each population.

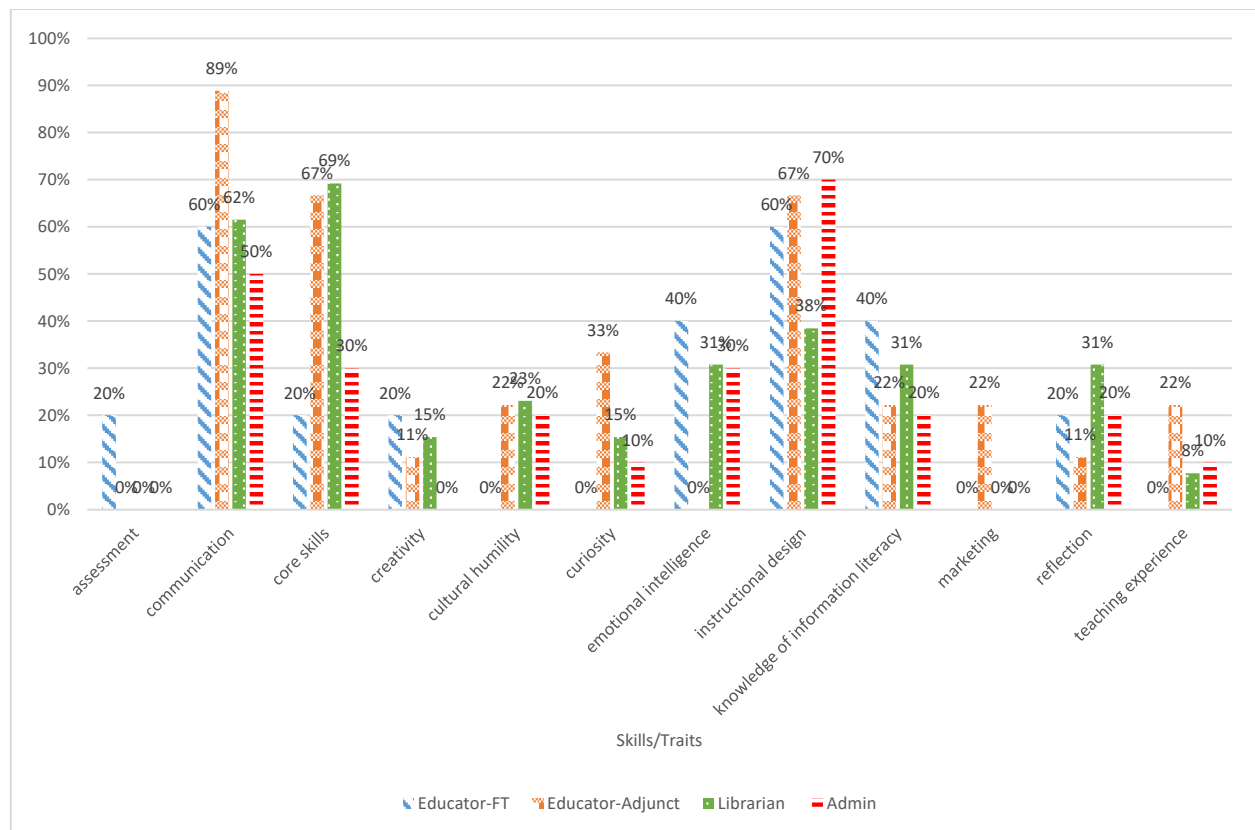


Figure 1. Most Important Skills/Traits for Instructional Librarians

Question 2: Where do you believe instructional librarians acquire the skills/traits necessary to perform their job duties?

Respondents most frequently mentioned “on-the-job” as the place where instructional librarians acquire the skills/traits necessary to perform their job duties among all interview populations. Observation, previous work experience, library school, professional development, and temperament (or “born with it”) all received similar amounts of responses (8-15%). However, the breakdown by population indicates stark differences between educators, practicing librarians, and administrators. Practicing instructional librarians and administrators named on-the-job as a place of skill/trait acquisition at a rate of 90%+, while only 1/3 of full-time educators indicated the same. Full-time educators, in fact, appear to be unsure *where* the skills/traits are required, with a response rate to this question below 100% (88%) and no response option receiving a larger percentage than any of the other three populations. Administrators more frequently cited library school and professional development as significant places of skill/trait acquisition compared to educators or practicing instructional librarians. Many instructional librarians, for their part, felt that their library school and professional development experiences were unsatisfactory when they first became an instructor. As noted by one respondent, “A lot of older librarians learn from the job because there were no instruction courses provided at that time.” It is possible that the response to this question varies between more experienced versus newly minted librarians, however this was not a question investigated in this study.

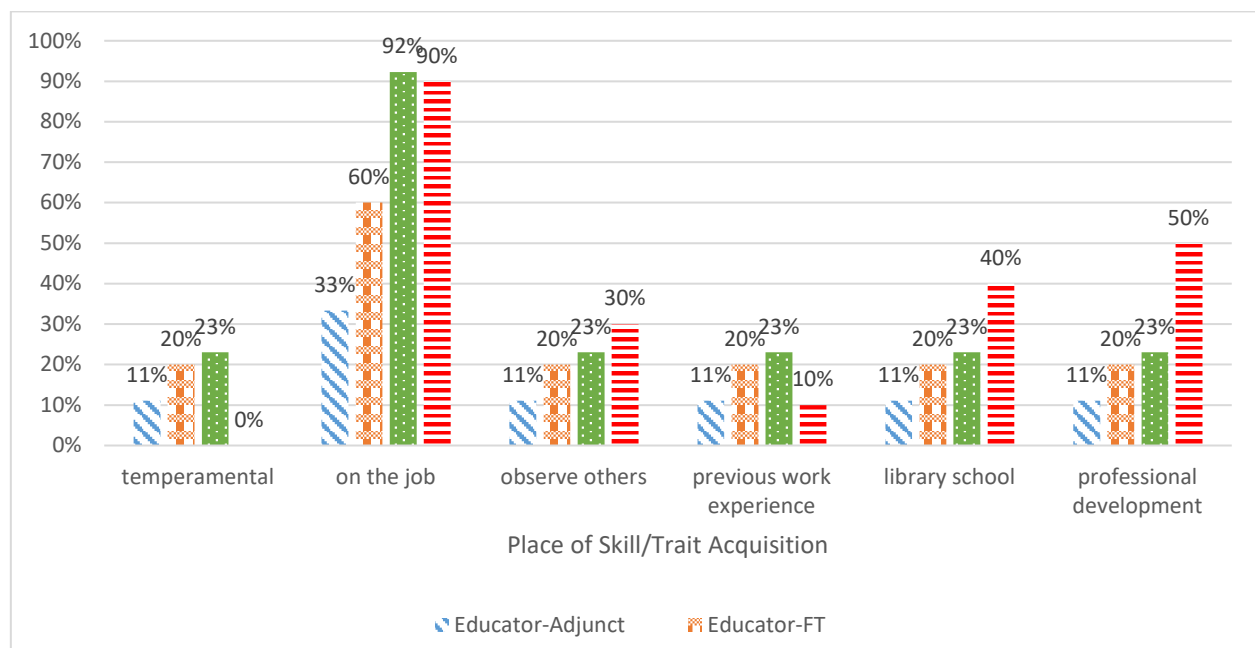


Figure 2. Where Important Skills/Traits for Instructional Librarians are Acquired

Question 3: What prior education/work experiences that individuals may have before becoming an instructional librarian do you believe would be most beneficial to their success in the position?

All populations indicated that prior teaching experience was invaluable for success in the university setting. For many respondents, this teaching experience can take many forms outside of formal library instruction, from “teaching swimming lessons,” and “giving directions to visitors in the library,” to “teaching high school.” Full-time educators named experiences related to library work and education in libraries and content areas, rather than more *generic* experiences like public speaking and engagement in a community of practice, as beneficial for aspiring instructional librarians. Librarians and administrators suggested a comparatively wider range of experiences that may be beneficial for preparation for instructional librarianship. While administrators were significantly more positive about the role of formal library training in preparing instructional librarianship than instructional librarians, they were less favourably disposed toward content area knowledge. Overall, however, administrator responses mirrored those of instructional librarians.

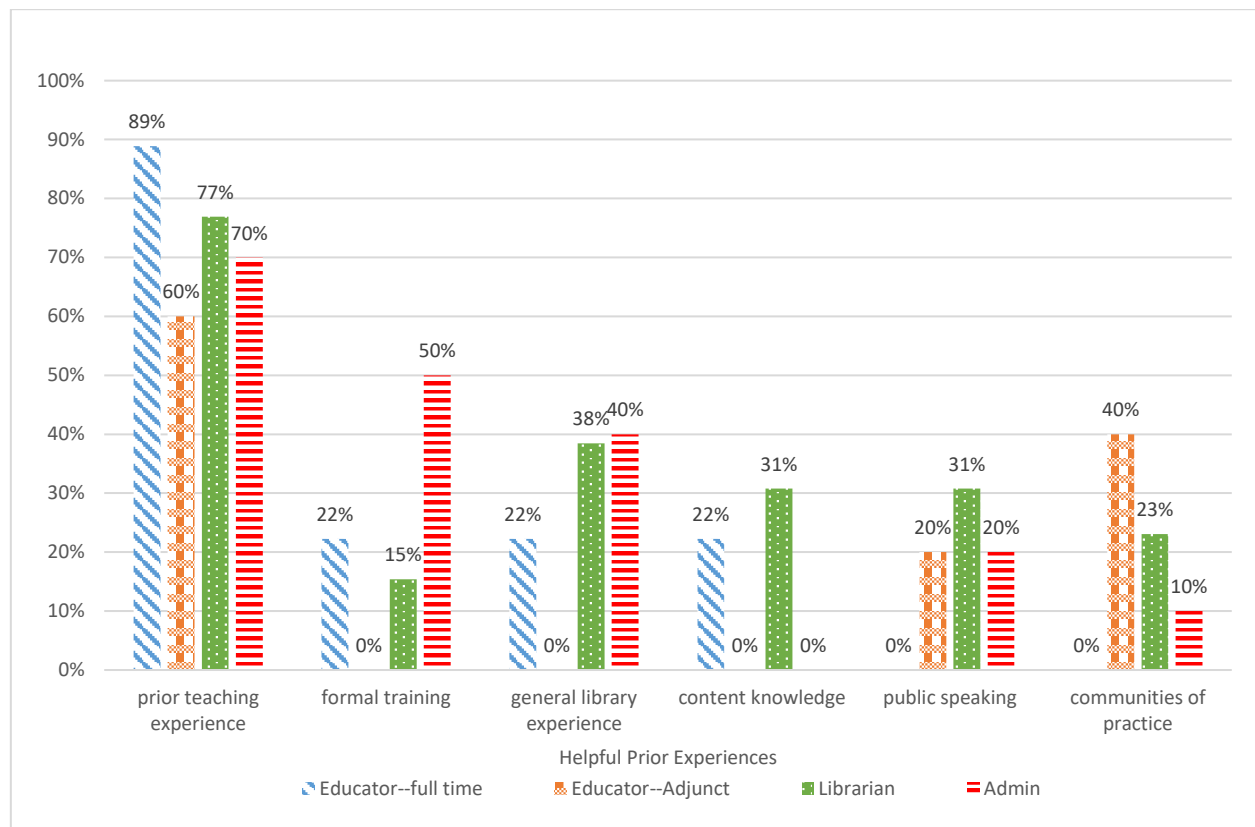


Figure 3. Prior Work Experiences that Would Be Helpful for Instructional Librarians

Question 4: Do you think taking a practicum in instructional librarianship/teaching in library school can significantly help students prepare for instructional roles?

Participants agreed that a practicum in instructional librarianship could be a useful experience, with only one participant in the study indicating “no.” There was, however, a bit of disagreement about whether these practicums should be integrated into library school curricula and the extent to which the nature of the work within practicums mattered. Three respondents indicated that a practicum could be helpful but should not be required of students while nine respondents indicated that a practicum would only be valuable if conducted with a high-level of engagement between the student and an experienced library instructor, rather than consisting simply of “busy-work.” Little disagreement existed among the four populations in response to this question.

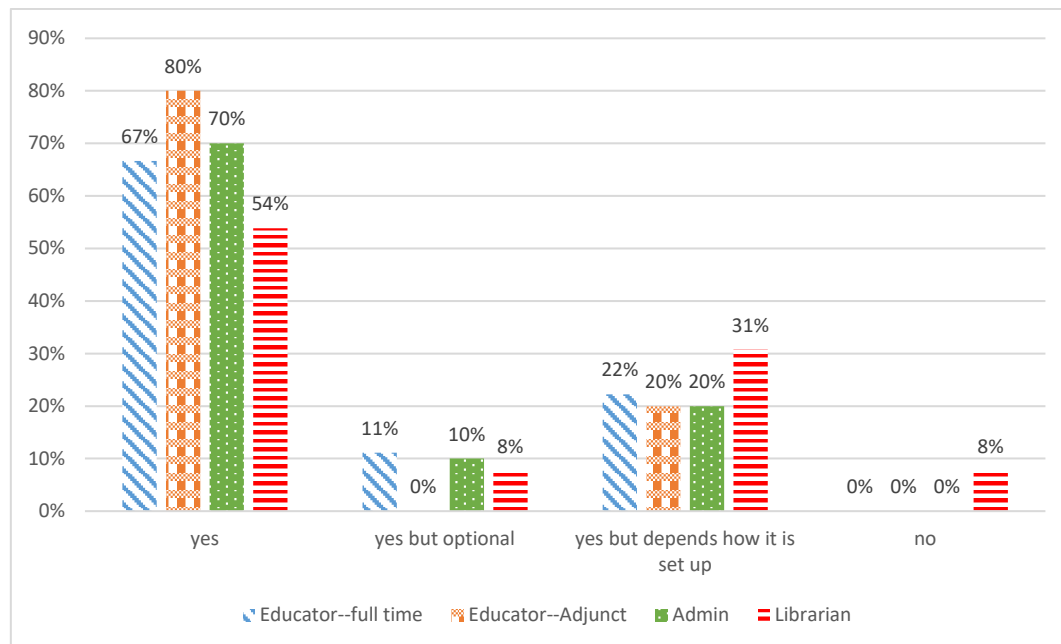


Figure 4. Can Practicums Help Prepare for Instructional Roles?

Question 5: Do you believe that library schools do an adequate job of preparing library school students for instructional librarian roles?

Practicing instructional librarians expressed negative attitudes about the quality of instructional preparation in library schools, with nearly 80% indicating that library schools do not do an adequate job in this regard. Other populations held similarly unfavourable views toward library school training, though they were also more likely to indicate “it depends.” Generally, “it depends” referred to a particular shortcoming of the library school, such as the recent shift of many programs toward information science rather than traditional librarianship. Respondents generally did not indicate hostility towards “information science,” but suggested a greater balance should be struck between the theory of information science and the practice more

emblematic of the everyday work of librarians (including library instruction). Several adjunct instructors evinced a positive outlook on the adequacy of library school preparation for instructional librarianship and pointed to the efforts of specific schools to improve preparation for instructional librarians. For example, one interviewee cited the University of Arizona which is in the process of developing an instructional librarianship concentration/certificate program.

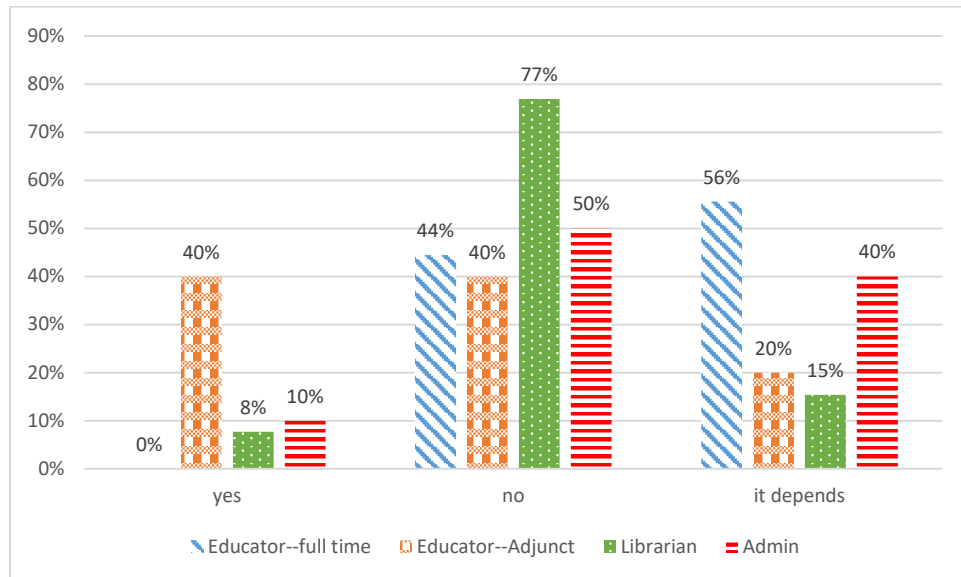


Figure 5. Do Library Schools Do An Adequate Job Preparing Students for Instructional Roles?

Question 6: What do you believe are the job duties of instructional librarians?

The four most commonly named job duties of instructional librarians (greater than 10% of all responses) were: classroom instruction, collaboration (such as with administrators, other librarians, and subject faculty), planning for courses, and reference duties. There was some disagreement among respondents in terms of which job duties were cited most frequently. Administrators named classroom instruction with greater frequency than the other populations but named planning courses at a much lower rate. Full-time educators were on-par with instructional librarians in naming classroom instruction, course planning, and reference services as job duties, but were less likely to name service work, collaboration, and professional development as duties. One point of disagreement, noted by several full-time educators whose frame of reference is different from those of instructional librarians, was that a true picture of job duties was highly conditioned by the specific library in which one is employed.. Educators tended to base their responses on a generalized sense of the profession, while practicing instructional librarians may have spoken more from their personal experience.

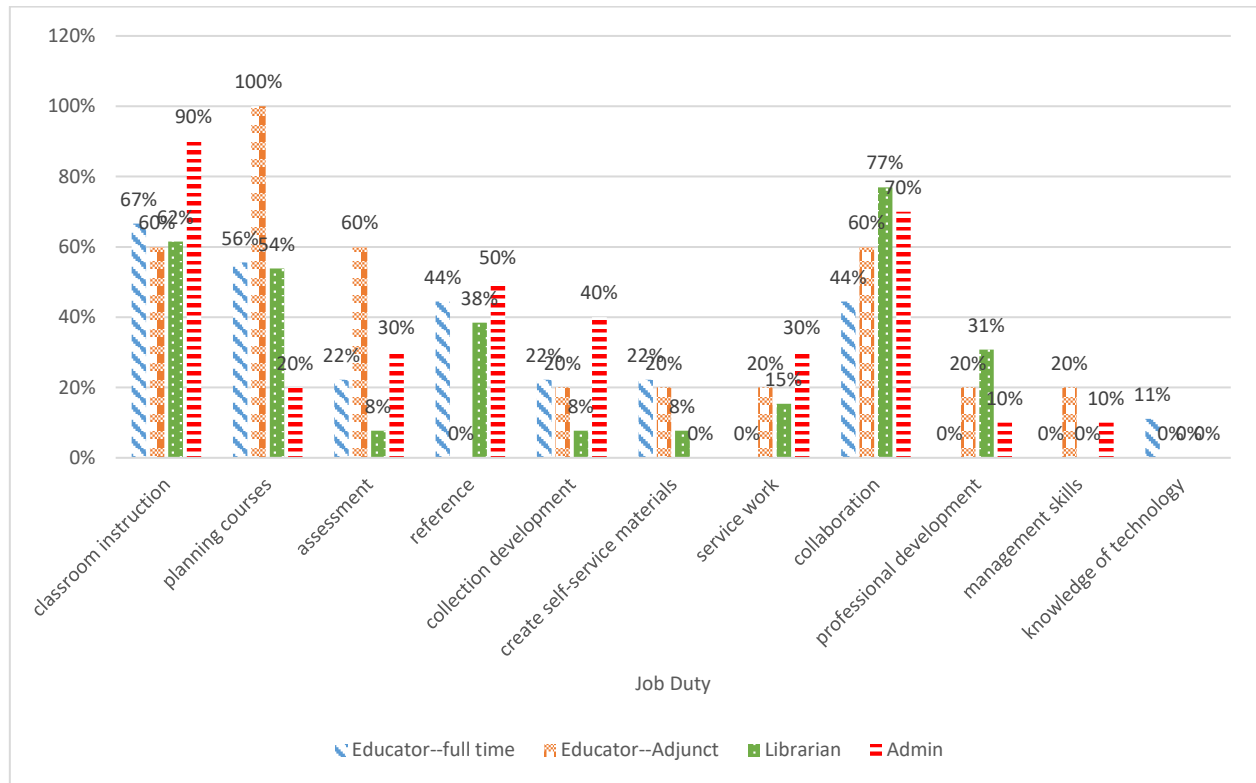


Figure 6. Job Duties of Instructional Librarians

Question 7: How do instructional librarians assess the quality of their instruction?

Significant disagreement existed between respondents as surrounding the question of assessment. Full-time educators and administrators were likely to cite student evaluations as the most common method of assessment. Librarians likewise identified student evaluations as an integral part of assessment but pointed to several other types of assessment as equally important, such as self-assessment/reflection, faculty feedback, and observation of self and class. Administrators and adjunct instructors indicated faculty feedback as an important type of assessment alongside the practicing instructional librarians, while full-time educators emphasized observation together with instructional librarians, but neither group's responses aligned well overall with the librarian group. Adjunct instructors were the least likely to indicate student evaluations for assessment, indicating peer-review and student success rate at a greater frequency than the other three populations.

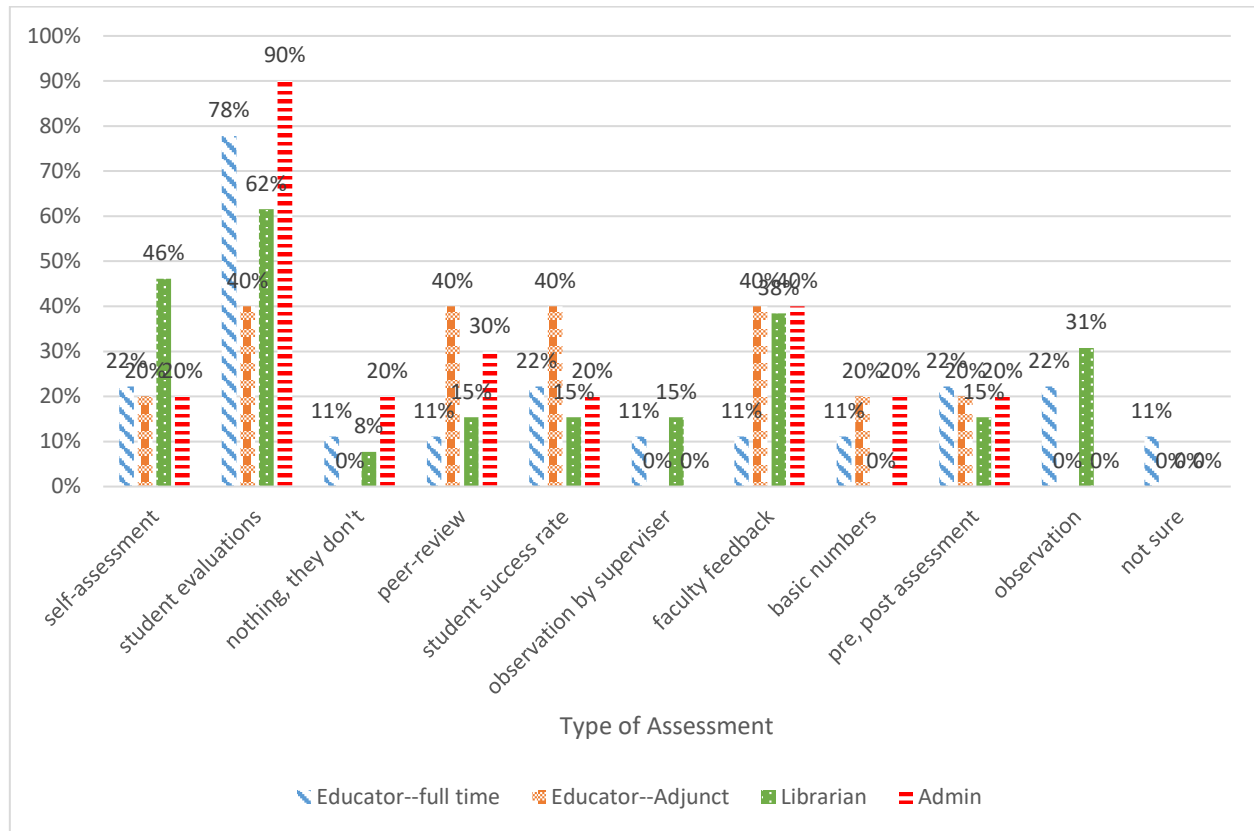


Figure 7. How Do Instructional Librarians Assess Their Instruction?

Question 8: How should instructional librarians be assessed by administrators?

Administrators rated peer review as the most appropriate approach to assess instructional librarians by administrators, followed by faculty feedback and student assessment. Librarians differed from administrators in their preference for observations by supervisors, student assessment, and faculty feedback as more meaningful measures. Educators (both full-time and adjunct) and librarians both cited observation by supervisor as an appropriate form of assessment. When viewing the participants in general, most respondents indicated observations by supervisor as the best assessment approach, followed by (in order of importance) peer review, faculty feedback and student assessment.

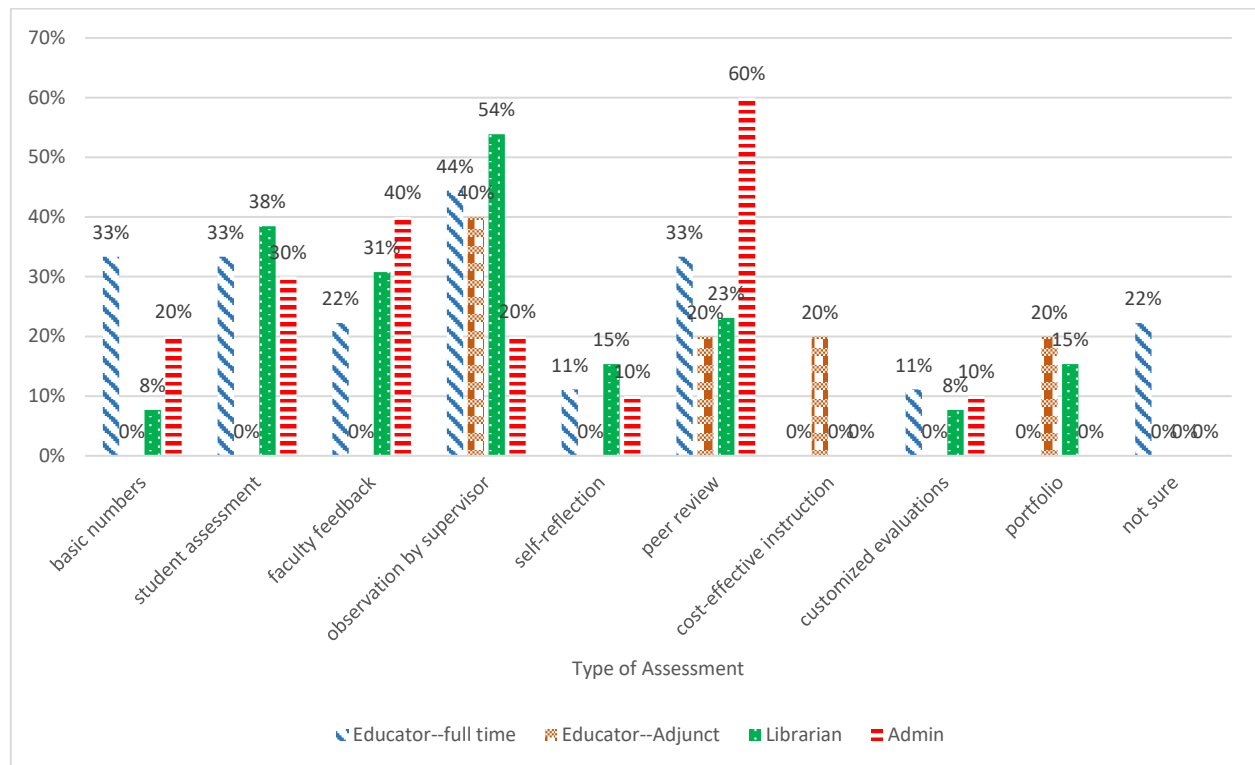


Figure 8. How Should Instructional Librarians Be Assessed by Administrators?

Question 9: What are the greatest challenges of the instructional role?

There are significant disagreements in the response as to the greatest challenges of the instructional role. Half of the administrators held efficient time management to be the greatest challenge, while most full-time educators and librarians believed changing perceptions of faculty toward librarians and their role within the university as the most challenging. Educators cited marketing and meeting the needs of diverse population as among the greatest challenges. However, full-time educators were least likely to cite efficient time management among the most pressing challenges for instructional librarians. Overall, participants expressed that changing faculty perceptions toward instructional librarians' job duties was the greatest challenge, followed by marketing and efficient time management.

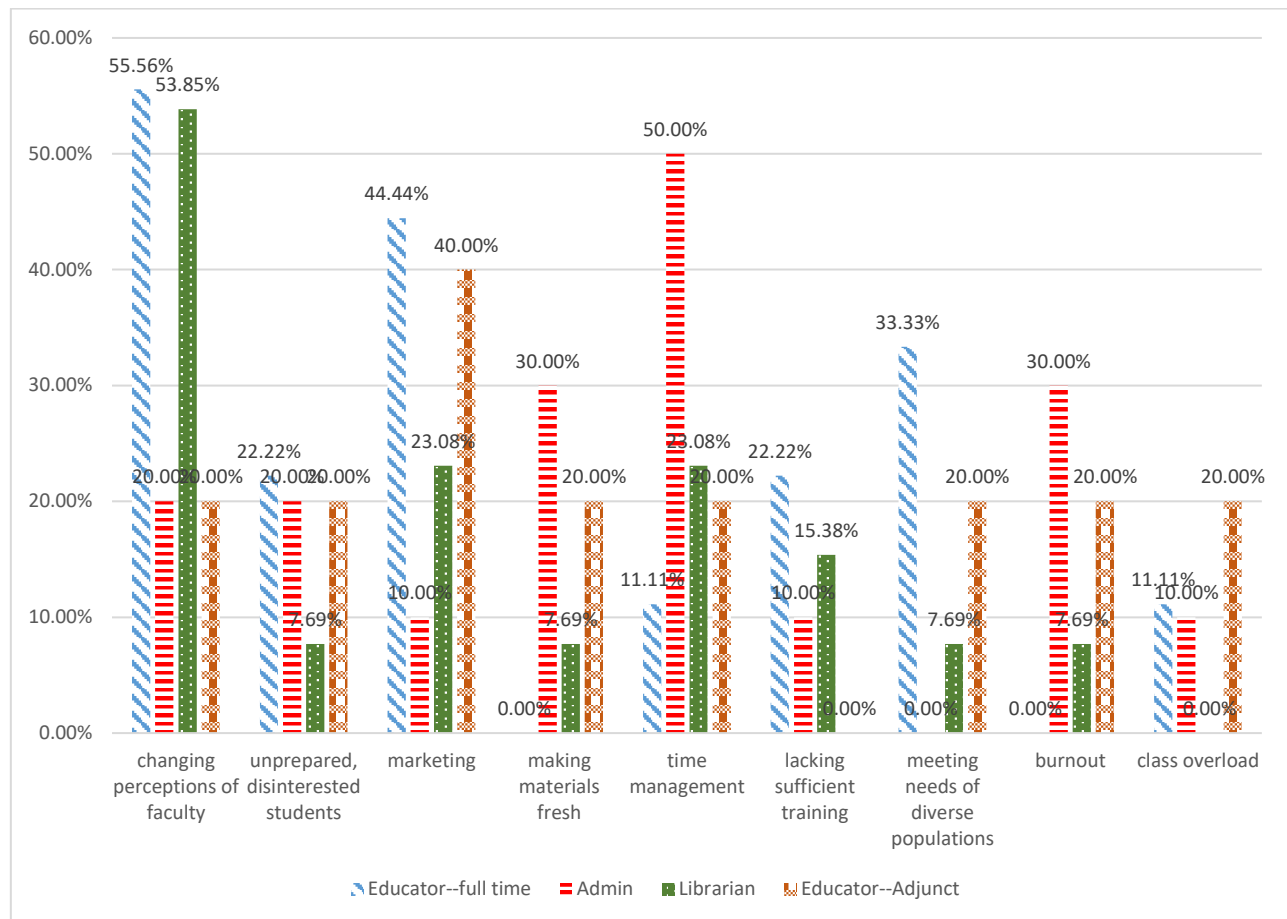


Figure 9. Top Concerns for the Instructional Role

DISCUSSION

Results reveal that administrators, educators, and librarians have similar understandings of the roles of instructional librarians. Discrepancies arose regarding the most important skills/traits for instructional librarians, where these skills/traits were acquired, and the greatest perceived challenges of the instructional role. Library school educators and librarians agreed that practicums could support instructional librarian preparation if they are well structured, and that library schools only sometimes prepare students well for instructional roles. This finding aligns these groups with the opinions of students examined by Brundin (1985), where practicum experience was seen as highly valuable for preparing students for careers in library instruction. Overall, the data suggests general agreement about instructional librarian preparation, with greater disagreement on the minutiae of what an instructional librarian is and what the job entails. Nonetheless, divergences in opinion between these populations on major issues in instructional librarianship suggests the existence of a divide that library schools can help bridge going forward.

CONCLUSION

Findings from this study indicate that library schools better prepare students for instructional roles compared to past decades. Expectations for preparation have also increased. While practicing instructional librarians, academic library administrators, and library school educators seem to agree that library schools could prepare students better, it is not clear what form preparation should take. Similarly, while the disconnect between instructional librarians, administrators, and educators on what constitutes effective library instruction appears to have decreased, it is not eliminated. Future work will administer the survey to expanded sample sizes in order to test the external validity of the findings.

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Interdisciplinarity in Students' Research Papers: The Impact of Assignment Requirements on Students' Use of Interdisciplinary Sources in an LIS Research Methods Course

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ABSTRACT

Library and information science (LIS) is an interdisciplinary field; however, historical studies of the use of sources and literature outside of library science indicate a lack of use of interdisciplinary sources. Research also shows reliance on a handful of sources. This study will explore the influence of strategic assignment requirements for a final paper on students' use of interdisciplinary sources in their work.

ALISE RESEARCH TAXONOMY TOPICS

research methods; education; scholarly communications; curriculum

AUTHOR KEYWORDS

LIS education; interdisciplinary research; student research

Literature Review

Interdisciplinary scholarship has been recognized as that which "...draws upon the theories, methods and paradigms of more than one discipline to solve a particular problem that is too large or complex to be addressed by a single discipline..." (Meyer, 2014, p. 323). When the topic of interdisciplinary research in library and information science (LIS) arises, it is usually accompanied by the suggestion that LIS should engage in more interdisciplinary research, especially as a way to prepare to tackle the problems the LIS community faces, which cannot be solved with the knowledge produced by a single discipline (McNicol, 2003).

It can be argued that LIS has become more interdisciplinary in its research over the last twenty years. Historical studies of the use of sources and literature outside of library science indicated a lack of use of interdisciplinary sources (Gatten, 1991). But subsequent research and reviews of LIS research have indicated a change, with reviews of citations showing an uptick in the use of sources outside of the LIS literature (Dali & McNiff, 2019).

Beyond interdisciplinary research itself, the question of reliance on interdisciplinary sources of information to support LIS research has also arisen. In a recent article, Dali and

McNiff (2019) suggested that librarians are reluctant “to build interdisciplinary knowledge into professional practices...” (p. 574). And despite research that indicates librarians do source and cite outside of the LIS literature (Dali & McNiff, 2019; Herring, 1999), research also shows repeated reliance on the same sources, especially sources within LIS (Dali & McNiff, 2019; Gatten, 1991). Chang and Huang (2012) report that when reviewing the literature over a period of 30 years, there was a definite increase in interdisciplinarity, which they define not only as citing more sources outside of LIS, but also of authors forming collaborations with authors from other disciplines. In their study the fields of education, business/management and sociology where the non-LIS fields more commonly cited in the LIS literature (Chang and Huang, 2012).

Another aspect of studying interdisciplinarity in LIS is that of LIS authors publishing in non-LIS journals. Chang (2018) found that these authors published in fields such as biology, medicine and computer science. In addition, most of these authors published by themselves and the cases when they published with others, it was mostly with other LIS authors not with authors in the differing discipline. Those LIS authors who published in fields other than LIS were also found to be mostly librarians (Chang, 2018). This intimate connection between librarians and research, makes an exploration of the topic of interdisciplinarity and how it is approached in the LIS curriculum a valuable endeavor in LIS education.

When considering the way in which research methods has been taught in LIS, the issues are many. Research on the topic has identified some of these as research method courses not matching the students’ interests (Luo, 2017), not being fully connected to real-life-work experiences (Evans et al., 2013), students’ anxiety about learning research methods (Dilevko, 2000; Matusiak & Bright, in press), and students’ discomfort with certain research skills such as data collection, data analysis and writing research results (Alemagne and Mandel, 2018). Research has also shown that librarians who conduct research have expressed that their programs did not prepare them well for this task, with as few as 17% of participants indicating that their program did prepare them to conduct original research (Kennedy and Brancolini, 2018).

Problem

These issues inform the main questions driving this research: Is the reliance on majority LIS sources pointed out by some authors, related to how librarians are taught to conduct research in their LIS program? Are students who complete research proposals showing the same tendency to rely primarily on the same LIS resources within their work? And what impact would the introduction of required use of interdisciplinary sources have on students’ choice of sources overall?

This study explores these questions in an effort to define the main issues related to interdisciplinarity in its relationship to LIS research and practice. This will allow LIS educators to appraise the exposure of LIS students to a broad body of research beyond that of the field. This study seeks to illustrate the need for soon to be LIS professionals to engage with scholarly literature/materials beyond those published in the field in order to enrich research and practice in LIS.

Methodology

Through analysis of the references cited by students in a required LIS research methods course, this study attempts to examine the impact of assignment requirements on graduate students' use of interdisciplinary resources. The main documents analyzed were the bibliographies of submitted research proposals, the final assignment for a required LIS research methods course. This is a convenience sample, as one of the researchers is the instructor of record for the course. The research was approved as exempt by the institution's IRB.

This study took place in two phases. Phase I focused on the initial analysis of 48 research proposals submitted in three iterations of the research methods course. These proposals were completed during the fall 2017, spring 2018 and summer 2018 semesters. In these iterations of the course, there was no requirement to include sources outside of the LIS literature in the final research proposal, nor a requirement for the dates of publication of the works cited in the research proposal.

Phase II analyzes the 35 bibliographies submitted for the spring 2020 course. These works capture the references cited after the assignment requirements were modified to require at least two sources from outside of the LIS literature, and materials no older than 5 years for journal articles and 10 years for monographs. This comparison will make it possible to explore whether a requirement for students to include a minimum of two sources from outside of LIS for the final research proposal, will encourage students to include additional interdisciplinary sources in their work. The issue of the age of the works cited was also explored.

Coding

To create the dataset for analysis, information about the sources found in each bibliography was entered into an Excel sheet. Each bibliography was assigned a participant ID and a group number that aligned with the semester of submission. For each bibliography, individual entries were coded based on whether they were LIS or non-LIS. The Subject entry from Ulrichsweb was used to determine the subject area of periodicals, while WorldCat's "Subjects" was used to determine the subject area of books. Webpage subject areas were assigned by the researchers based on content and author information.

All LIS sources were coded as "1" and non-LIS sources as "2." A "0" was assigned to any general definition and these sources were not counted. As some sources were used multiple times in a bibliography, the dataset also noted the number of "unique" sources found in each bibliography. Additional data pulled from each bibliography included the titles of each source and publication dates.

Data Analysis

The data was analyzed using SPSS 26. The three groups of bibliographies that were collected prior to the assignment changes were combined to create a "Before" group. An independent sample t-test was utilized to determine if there was a difference between four aspects of the sources utilized by students before and after the assignment requirements were

changed: The mean number of non-LIS sources used by students, the mean number of LIS sources used, the mean percentage of non-LIS sources used, and mean age of publication for sources used.

Results

Results for Phase I of the study showed that students relied mostly on LIS sources, with student bibliographies averaging 71.76% LIS-centered sources. Looking at the sources themselves, 45% were LIS centered, while 26% were classified as education, and only 24% covered all other fields. Even more, while only one bibliography utilized only non-LIS sources, 17 (35.42%) did not use any non-LIS sources. Another interesting finding from this data relates to the dates of publication and age of the sources used by students in their final research proposals. In this aspect, 58.6% of the sources had publication dates from 2014 and older. Sources averaged an age of 6.63 years old, with a range of 19.4 years (min = 0.9, max = 20.3).

Results for Phase II of the study showed less reliance on LIS sources, with student bibliographies averaging 55.75% LIS-centered sources. Looking at the sources themselves, 37.8% were LIS-centered, while 34.0% were classified as education, and the remaining 28.2% covering all other fields. Similar to the Phase I, only one bibliography utilized only non-LIS sources, but only two (5.71%) did not use any non-LIS sources at all. In terms of dates of publication and age of sources, only 7.26% of the sources had publications dates from 2014 and older. Sources averaged an age of 3.32 years old, with a range of 6.3 years (min = 1.5, max = 7.8).

Independent-samples t-tests were conducted to compare the number of non-LIS sources found in student bibliographies before and after assignment requirements were changed, the percentage of non-LIS sources found in student bibliographies before and after assignment requirements were changed, the number of LIS sources found in student bibliographies before and after assignment requirements were changed, and the average age of sources found in student bibliographies before and after assignment requirements were changed.

There was a significant difference in the average number of non-LIS sources found in bibliographies “Before” assignment changes were made ($M = 2.96$, $SD = 4.37$) and “After” assignment changes were made ($M = 5.40$, $SD = 4.25$); $t(81) = -2.54$, $p = 0.01$, $g = 0.57$. There was also a significant difference in the average percentage of non-LIS sources found in bibliographies “Before” assignment changes were made ($M = 28.24\%$, $SD = 30.89\%$) and “After” assignment changes were made ($M = 44.25\%$, $SD = 26.76\%$); $t(81) = -2.46$, $p = 0.02$, $g = 0.55$. However, there was no significant difference in the average number of LIS sources found in bibliographies “Before” assignment changes were made ($M = 5.90$, $SD = 2.55$) and “After” assignment changes were made ($M = 6.06$, $SD = 3.27$); $t(81) = -0.25$, $p = 0.80$. These results suggest that including a requirement for non-LIS source use increases students use of non-LIS sources without impacting their use of LIS sources.

In terms of the age of the sources used, there was a significant difference in the average age of the sources found in bibliographies “Before” assignment changes were made ($M = 6.63$, $SD = 4.18$) and “After” assignment changes were made ($M = 3.32$, $SD = 1.32$); $t(59) = 5.14$, $p < 0.001$, $g = 1.00$. Levene’s test indicated unequal variances ($F = 18.84$, $p < 0.001$), so degrees of

freedom were adjusted from 81 to 59. These results suggest that including a requirement to utilize “current” sources reduces students’ use of older and potentially outdated sources.

Discussion

Assignment instructions are essential to the type of work that is expected of students. This study introduced two caveats to the instructions provided to students regarding the expectations for the sources they were to use in their final research proposal between the sections in Phase I and the sections in Phase II of this study. Students in Phase II were instructed to include at least two sources outside of the LIS literature for their final proposal. They were also instructed to include material that was no older than 5 years for periodicals and 10 years for monographs. These instructions were intended to add clarity regarding the expectations around use of information sources for their final work. According to Walvoord and Anderson (1998), students complete assignments as they interpret their instructors’ words and not necessarily what is intended for them to complete. It is because of this that complete and clear instructions are necessary in order to avoid students drawing from previous learning that might be marginally relevant to the current situation. By adding these requirements, any ambiguity regarding the expectations for the sources cited is eliminated.

Findings for Phase I resonate with those of Dali and McNiff (2019), in that students still tend to rely heavily on the LIS literature. Moreover, these findings present a picture in which interdisciplinarity is not represented in LIS students’ work through their chosen sources for citations. The tendency for the age of the cited sources is to be older than 2014 is an important consideration, especially due to the use of social science focused literature, which favors journal publications and where publication cycles move at a faster pace than other fields of study (Bowers, 2014).

Phase II of the research demonstrates an overall reduction in the inclusion of materials which are exclusively from the LIS literature as well as the overall reduction of the age of the materials cited. These changes were also accomplished without a significant negative impact in their use of materials in the LIS literature. These changes demonstrate a positive impact of the change in assignment instructions in guiding students towards a more interdisciplinary approach to their final research projects.

Overall, the results of this study suggest that students do show a reliance on LIS sources, which is likely related to how students are taught, especially in terms of assignment requirements. Students did show a tendency to rely primarily on LIS literature, despite the changes. This is not totally surprising, after all, students are instructed to choose an LIS topic for their final paper and are enrolled in a program which focuses on preparing students to work in libraries. Therefore, it is not out of the realm of the possibility to consider that the choice of topic is a strong driver into the choice of information sources included.

It is important to point out here that, according to the data presented, the students’ choice of sources was impacted by the new assignment requirements introduced between Phases I and II of the study. This points at the importance of faculty introducing students to the possibility of finding information relevant to LIS in the literature of other fields. It can be argued that this approach helped expose students to a more varied body of work relevant to their topic of choice,

which helped them produce more interdisciplinary work. This is an experience which can positively influence their future professional practice, as the field of library science is one that has been increasingly becoming more and more interdisciplinary throughout its history (Larivière et al., 2012), and one which prepares students to work in a variety of fields and environments (Luo, 2017).

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Transforming Reference Education through Improv Comedy

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ABSTRACT

This study sought to explore how the fundamentals of improv comedy could be used to discuss and practice the soft skills necessary for successful reference service interactions. Feedback was collected from a pilot study where students were asked to engage with selected improv comedy activities and then discuss bridges between improv and reference skills. The results presented in this paper support the continued exploration of the efficacy of using the principles of improv comedy to explore effective reference services provision.

ALISE RESEARCH TAXONOMY TOPICS

curriculum; education; pedagogy; reference transactions

AUTHOR KEYWORDS

education; improv; reference; soft skills

INTRODUCTION

The American Library Association (ALA) cites Reference and User Services as the fifth Core Competency of Librarianship, requiring library and information science (LIS) educators to teach library students reference skills. Specifically, it is expected that an individual who graduates with a Masters degree from an LIS program will be able to understand and employ “the methods used to interact successfully with individuals of all ages and groups to provide consultation, mediation, and guidance in their use of recorded knowledge and information” (ALA, 2009, p. 3). This study investigates an innovative way to engage with this topic and explore how to teach the soft skills involved with successfully providing these types of services in a library setting.

Soft skills such as “spontaneity, adaptability, collaboration, and skilled listening” (Watson & Fu, 2020, para. 3) are core skills in improv comedy, where performers must think on their feet and listen closely to have an effective, collaborative experience. Beginning in 2008, the group Medical Improv started using the principles and training techniques from improv to teach physicians better strategies for communicating with patients. Core guidelines for improv such as

make a connection, listen, be flexible, avoid preconceived ideas, respect others' choices, and follow your intuition (Hunter, 2015) have been shown to improve clinicians' communication skills (Hoffman et al, 2008). LIS educators who regularly teach reference skills may look at that list of guidelines and see quite a bit of overlap between effective improv and effective reference.

Improv is not a new concept to bring to the world of librarianship. In a narrative review of LIS research, Azadbakht (2019) noted that scholars and practitioners have published about the use of humor as an instructional strategy since the 1980s. Tewell (2014) discussed connections between improv comedy strategies and library instruction, including knowing how to read an audience, varying teaching methods, relating on a personal level, and using feedback to hone a performance. Improv has also been used to explore effective collaboration in libraries (Dohe & Pappas, 2017), focusing on the interpersonal skills necessary for navigating collaboration in an academic library environment. With this background in mind, the researcher sought to explore how improv comedy strategies could be used to teach reference skills to first-semester LIS graduate students.

METHODS

In a pilot study, the researcher used short, improv comedy exercises as an active learning activity designed to explore the soft skills that enhance a librarian's reference skills. To begin the in-person class session which took place four weeks into the semester, the instructor discussed common types of reference questions as well as best practices for approaching a reference interview. Then the instructor provided an overview of improv comedy, sharing a TED Talk video about the benefits of improv comedy and asking students to participate first in a class-wide One Word Story Game exercise. Then the students broke into groups of two to practice additional improv comedy exercises. Exercises included the One Word Story Game (Gwinn & Halpern, 2007), Alphabet Game (Nevraumont et al., 2001), and the "Yes And" Game (Gwinn & Halpern, 2007). These activities are designed to practice skills relating to listening, thinking on your feet, and being flexible – all soft skills that relate to what is traditionally highlighted as reference interview best practices.

Following the discussion of reference services and the in-class improv comedy exercises, students were asked to identify bridges between reference and improv. Then students worked in pairs to answer a more traditional library reference question (switching off who would serve as librarian and who would serve as patron). Lastly, the 20 students in the class were asked to provide anonymous warm feedback (i.e., what did you like/learn) and cool feedback (i.e., what did you not like, what would you change) on note cards to evaluate the improv comedy discussions and reference exercises. Note card comments were coded using an open coding approach to identify emerging themes. Quotes that speak to specific takeaways will be highlighted to illustrate key themes. Feedback from both activities will be discussed in detail in the following section.

RESULTS

In the class wide discussion of bridges between reference and improv, students cited the following connections: take the time to listen, do not jump to create a response before finished (to avoid giving the wrong response), think on your feet and be flexible, express positivity (“Yes And” puts people at ease), repeat what a person says to help clarify, and make a connection (meet someone where they are at). These soft skills are key to effective reference interviews but can be difficult to convey in a standard class exercise where students practice the reference interview. By marrying discussions of improv comedy with reference skills, students were able to engage and explore these soft skills from a different lens.

Warm feedback responses collected in the anonymous note cards (see Table 1 for examples) included feedback specifically on the activities and the exercises themselves, individual reflections on soft skills and professional development, and connections between improv and reference services. One student upon reflecting on the activities shared “The exercises helped to put into practice what had been a theoretical discussion... seeing how it actually looks, practicing, lets you see how different tools produce different results.” Students also reflected on the mechanics of the activities, including praising the structure “the large group exercise broke down barriers and made [the] two person exercise[s] easier” and “I wouldn’t have been comfortable acting out ... in front of the class.” This supports the continued structure of beginning with a class wide activity where each individual contributes minimally (e.g., one word to the whole story) and then transitioning to one-on-one partner activities where the students are asked to stretch further in a more secure feeling set-up. One student even reflected “I can see how to incorporate this kind of experiential learning activity into other educational and professional settings,” supporting the use of improv activities as a potential train-the-trainer activity where librarians could use these skill sets with patrons.

	Warm Feedback	Cool Feedback
Student A	I liked how you linked reference interviews to improv. I learned (or was reminded) to be an active listener.	I'm introverted by nature and not into performing or acting at all, so the activities were a little hard and gave me anxiety. But I do see the impact on face-to-face patron interaction!
Student B	The activities were fun and interactive. I liked the videos.	Maybe one thing that could be different is having different partners each time so we can interact with more people and see how different people interact.
Student C	I liked that the improv and reference interview activities were practical and employed using those "people skills" that all of our textbooks talk about. Instead of reading about these skills, we were	I don't think I would change much. I suppose I was a little nervous doing the improv type of activities, but the environment was supportive, so it made it pretty easy.

	given the opportunity to put them in action. Along those lines, it helped me to access where I'm at with those skills and where I can grow. It isn't always just about the technical skills! This was the first class that allowed me to learn more about those "soft" skills.	
Student D	I liked the connection between improv and reference service. I liked learning the tools and being able to use them immediately.	It may help to put the "Yes And" exercise before the ABC exercise to train people to listen before asking them to do an exercise that is internally focused.
Student E	I thought the activity was fun and engaging! I learned that with practice, it can get easier to "think on your feet."	It felt slightly awkward, but was still fun. I wouldn't change anything - thanks for not making us go to the front of the room!
Student F	By analogy, I can see how to incorporate this kind of experiential learning activity into other educational and professional settings.	Expertly mediated, in my opinion. Therefore, no critique. I noticed my own inner hesitancy or anxiety during the exercise, but that's part of the learning process. You were gracious to forewarn us about potential feelings of discomfort.

Table 1. Selected Examples of Warm and Cool Feedback

Students also had exercise-specific feedback. For example, one student noted “I loved the creativity of the ABC exercise” and another specifically highlighted the one word story class exercise as a “helpful and interesting way of looking at the goal” of effective reference library services. Additional feedback explored the effectiveness of using improv to talk about reference services, from the hesitant - “improv is not as scary as I thought it would be” - to the reflective “I liked the way it related to being a librarian and the new perspective it gave me.” One student summarized their experience thusly: “I normally dread improv activities because I’m not great at thinking on my feet, but it was a great opportunity to step out of my comfort zone. I liked seeing the connection between improv and reference services - [I] never considered that before - now I want to read [the recommended book] ‘Improv Wisdom.’”

Finally, one student in particular noted that the improv activities were an effective way to practice those “‘people skills’ that all of our textbooks talk about. Instead of reading about these skills, we were given the opportunity to put them into action... It helped me access where I’m at with those skills and where I can grow... This was the first class that allowed me to learn more about those ‘soft’ skills.” This reflection in particular, highlights the unique way that connecting to improv is a way to explore the soft skills of reference in an engaging and personal way.

Much of the cool feedback (n=7) was students saying there was not much they would change. Students did report initial nerves, hesitancy, or anxiety, but reported relief they were not asked to perform in front of the entire group. They also noted it was helpful to have the instructor

“forewarn us about potential feelings of discomfort.” While one student noted “thanks for not making us go to the front of the room!”, another said “it would be cool if one group were asked to do the reference interaction activity in front of the class so people like me that don’t have much experience could see it done well.” These suggestions support keeping most of the activities one-on-one but potentially adding an example as part of the reporting back and debriefing process.

Several of the cool feedback suggestions were specifically in regards to the exercises used. One student expressed a desire to try one of the exercises demonstrated in the TED Talk as that “would be less anxiety [producing] but also helpful listening.” One student shared they did not care for the ABC game “because it was more of thinking of your next word than actually listening to your partner.” Since part of the intention in having students do this exercise in particular was for students to recognize the importance of listening before coming up with a response, perhaps this recognition is part of the learning experience. One student suggested “it may help to put the ‘Yes And’ exercise before the ABC exercise to train people to listen before asking them to do an exercise that is internally focused,” so that could be one approach to address the previous student’s concern about not listening to their partner as intently.

A few students commented on aspects regarding instructor facilitation. This included sharing “the environment was supportive” as well as discussing how the groups were structured. Three students expressed a desire to switch up group members during the improv and reference interview exercises: “maybe switch up partners every few exercises. I don’t think staying with the same people was bad, but working with different people allows for new connections and new challenges.” Rotating partners will be something to explore in future iterations of this class activity.

Six students noted that they were quite nervous when initially hearing there would be improv activities in the classroom. For example, one student shared “I’m introverted by nature and not into performing or acting at all, so the activities were a little hard and gave me anxiety. But I do see the impact on face-to-face patron interaction!” Another added “It brought me out of my comfort zone, but that’s a good and necessary thing, so I wouldn’t change it.” This initial hesitancy was addressed at the beginning of class as a way to recognize the tension that might be present in the room, but it is also affirming to hear that these nerves gave way to an experience that was ultimately rewarding.

LIMITATIONS

This was a pilot study of an in-person class of 20 students. Additional research will be conducted to explore if this approach continues to be effective with other groups of students. In future semesters this approach will be explored in an online setting to incorporate feedback from pilot student participants and observe the effectiveness of the use of improv comedy to discuss reference services in a synchronous online environment where students will be broken out into smaller meeting rooms within an online meeting platform.

Additionally, the LIS educator and researcher conducting this study does not have a background in improv comedy and does not profess to be an expert in this area. To truly ask students to engage with improv comedy techniques, several sessions would be ideal (as is done with the Medical Improv team). The exercises and activities described in this study are designed to expose students to the soft skills of improv to encourage connections with LIS services but are not designed to create improv comedy experts. It is also important to note that while humor has been used as an effective tool in LIS instruction across the United States (Azadbakht, 2019), applications outside of the United States require cultural sensitivity to explore whether humor would translate to the culture in which the librarian is serving.

DISCUSSION

In soliciting students to identify connections between improv and reference, the students demonstrated close engagement with the topic and a recognition of the soft skills required for effective reference services. An instructor can stand up and list these fundamentals for students, but by having students supply them through the creative lens of improv comedy, it is hoped that more personal, close engagement with the topic occurred.

The feedback collected on the note cards highlighted the importance of a supportive environment and effective facilitation. For LIS educators hoping to use improv comedy in the classroom, it is important to address the initial apprehension many students may face when asked to do any kind of performance. Students affirmed the instructor's choice to have the activities happen in small groups without asking students to put on any kind of performance at the front of class. Future iterations of this activity may mix up the order of the improv activities as suggested by student feedback to explore how that might enhance the learning experience.

Students offered reflections on how this connected to their current work as well as how improv comedy exercises provided an opportunity to practice soft skills that are often merely mentioned in LIS instruction. This initial pilot study suggests that using improv comedy may be an effective approach for students to connect with the soft skills necessary for reference service provision.

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Simulated Person Method for Teaching Soft Skills in the Information Professions: A Pilot Qualitative Study

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ABSTRACT

Simulated Person Methodology (SPM) is a type of experiential learning that provides learners with realistic practice of soft skills such as communication and conflict resolution. SPM utilizes humans, who are trained to portray specific roles and provide feedback to learners. SPM training interventions were implemented in a Museum Studies course and a Library and Information Science skill-building workshop. Standard evaluation forms, interviews and focus group were used to obtain post-intervention feedback from students and instructors. Results suggest that the SPM activity was beneficial to the students' learning experience and successfully met educational objectives. Suggestions for improvement are discussed.

ALISE RESEARCH TAXONOMY KEYWORDS

education of information professionals; reference transactions; pedagogy

AUTHOR KEYWORDS

experiential learning; simulation; soft skills

INTRODUCTION

Interpersonal communication is an important skill in any profession and even more so in professions that involve service to clients or the public. Together with critical thinking and problem-solving skills, employers have identified communication, leadership, interpersonal, and teamwork skills as important characteristics that employees who have recently graduated university often lack (Strauss, 2016). Interpersonal communication skills are critical for all information professions including museum curators, librarians, business analysts, and UX designers to name just a few (American Alliance of Museums Curators Committee; Schwartz, 2016; Sonteya & Seymour, 2012; Tyckoson, 2003).

While these skills are taught in many Information programs in a variety of ways (often through the hidden curriculum), including other forms of experiential learning such as work placements, problem based learning, action learning and service learning (Kolb & Kolb, 2020),

simulation offers a particularly useful and explicit approach in that it can recreate characteristics of the real world (Salas et al. 2009). Simulation, too, is a form of experiential learning broadly defined as “the process whereby knowledge is created through the transformation of experience” (Kolb, 1984, p. 41). However, as opposed to the real world, simulation enables educators to control the educational environment by designing scenarios to meet specific learning objectives and allowing students to practice their skills and gain immediate feedback on performance through debriefs and guided reflection (McGaghie et al., 2010).

Simulation has been widely adopted in the training of some professions, most notably in the fields of aviation (e.g., training pilots on flight simulators) and health, in which a variety of simulation techniques have been applied ranging from virtual reality to high-fidelity patient manikins to human simulation. The Simulated Person Methodology (SPM) is one type of human simulation that provides specific and realistic practice, enabling educators to assess competencies and students to examine strategies and identify knowledge gaps. This type of active learning helps develop cognitive skills (Harris & Bacon, 2019) and allows participants to practice, experiment and make mistakes, which serve as an opportunity for learning and improvement. In this paper, we describe the application and pilot evaluation of SPM to teach communication and interpersonal skills in a Museum Studies course on Ethics, Leadership and Management and a Reference Interview extra-curricular skills development workshop at the University of Toronto.

METHODS

The Simulated Person Method interventions

The SPM interventions were developed by University of Toronto faculty and a reference librarian in collaboration with York University’s SPM Lab, in the context of a Master of Museum Studies (MMSt) course on Ethics, Leadership and Management and a Library and Information Science (LIS) extra-curricular skills development workshop (iSkills) on the reference interview. The overall process is depicted in Figure 1 below.

Both interventions occurred in Winter 2019 and included one simulated person (SP), one SPM trainer, faculty/librarian instructor, and student learners who volunteered to participate in each simulation round. To prepare for the activity, the team including, SP, SP trainer and faculty member worked with the MMSt course instructor and reference librarian to determine learning objectives, design simulation scenarios using a scenario design template prepared by the York University SPM lab (York University Simulated Person Methodology Lab, n.d.), and discuss logistics, taking into consideration the task difficulty, physical space and time constraints.

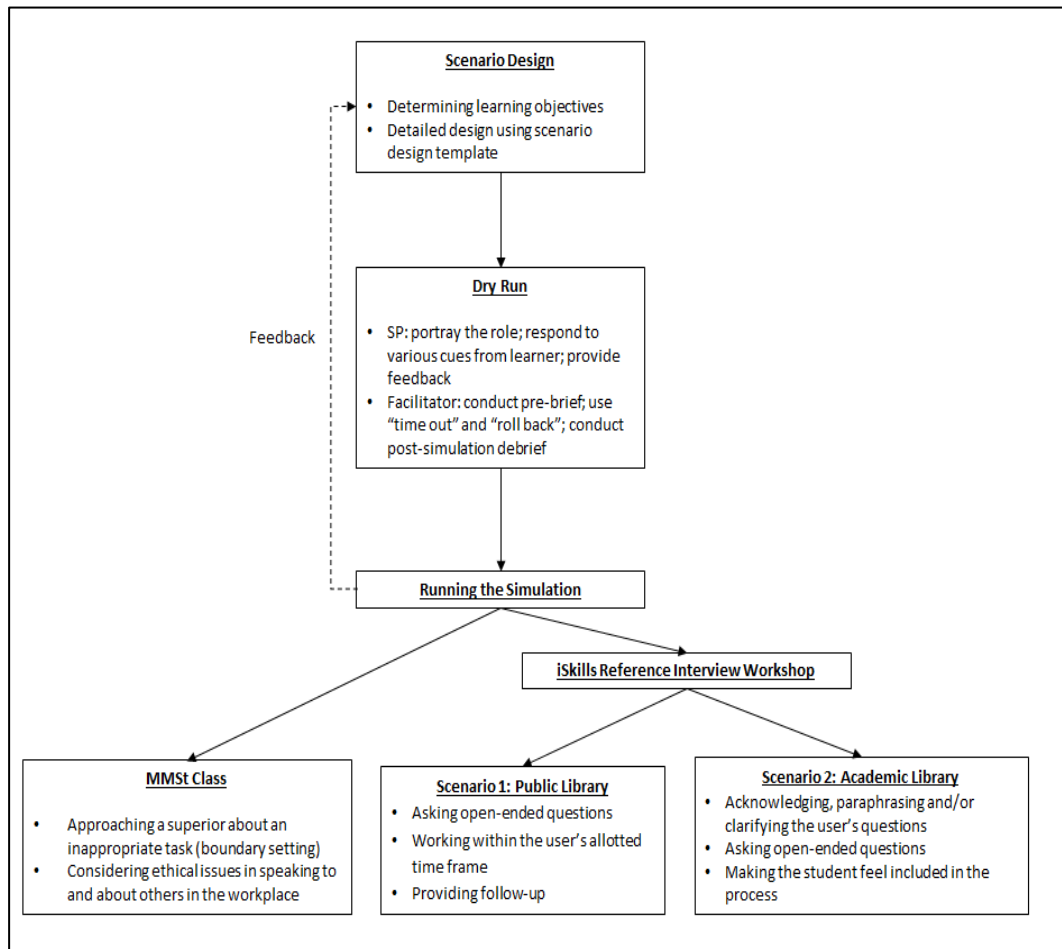


Figure 1. Overall design process of the simulated person method sessions

The instructors and SP then tried out the scenarios under the guidance of the SP trainer ('dry run'). The SP—an undergraduate student with some acting and improvisation experience—was trained to accurately portray each role (a museum registrar, a public library patron, and a first-year university student library user) and respond to a variety of cues and behaviors that may be exhibited by the student learner, based on the scenarios' objectives. The SP was also trained to provide feedback concisely and in a professional, objective, and non-judgmental manner. This feedback usually takes the form of "when you said (or did)... I felt...". Instructors were trained in a variety of SPM techniques, which included 1) conducting a pre-simulation brief to explain the scenario, roles, and rules of engagement; 2) using facilitation techniques such as calling a "time-out", which may be requested by the instructor, SPM trainer, or learners to re-compose, reflect, obtain feedback, or try a different approach (roll-back); and 3) conducting a debrief for learners to reflect on their experience during the simulation.

The MMSt session was developed to simulate a conversation between an employee and manager in a museum setting. The learning objectives for this scenario were for the students to practice approaching a superior about an inappropriate task (boundary setting) and consider ethical issues in speaking to and about others in the workplace. Specifically, in this scenario, the student learner portrays the (future) role of a Collections Assistant working in a museum under a Registrar, portrayed by the SP. The Registrar requests that the employee confront a colleague about project deadlines that have been missed. The employee is aware that this colleague is experiencing significant personal challenges outside of work and feels uncomfortable confronting the colleague. The SP was instructed to initially dismiss the employee's concerns and only provide support once the concerns are expressed in a clear and direct manner. If not expressed clearly, the SP was instructed to become more impatient and dismissive of the learner's concerns. This activity was conducted in-class to complement the existing Museum Studies coursework. The course instructor facilitated the simulation sessions (3 sessions in each of two sections of the class for a total of 6 repetitions), including the pre-brief, facilitation during the session, and a debrief at the end of each session.

The Reference Interview iSkills workshop included two different scenarios. The first scenario took place in a public library and depicted a patron (portrayed by the SP) seeking travel information from the reference librarian (portrayed by the student volunteer). The SP provided vague details of the search and expressed that she would be picking up her children from school shortly. The objectives of this scenario were for the student learner to 1) ask open-ended questions to gain an accurate understanding of what the library user needs; 2) work within the user's allotted time frame; and 3) provide follow up to ensure that the library user understands she can come back for further support.

In the second scenario, a first-year university student (SP) approaches one of the university librarians (student learner) to ask questions about finding information for an essay she is writing. The SP was instructed to vaguely describe the information required, while the student learner's task was to identify the student's needs and provide support by 1) acknowledging, paraphrasing and/or clarifying the library user's questions; 2) asking open-ended questions; and 3) making the student feel included in the process by expressing individual steps while answering the student's questions.

Before beginning the simulation, the first author provided an overview of SPM to the students. The reference librarian presented principles of good practices when conducting a reference interview; and the SP trainer conducted the pre-brief, explained the process and learning objectives for each scenario, and facilitated the simulation sessions. Both SP trainer and reference librarian conducted the debrief following each session.

Data collection

Following the MMSt course activities and iSkills workshop, feedback was obtained from students and instructors. A total of seven student attendees, from both MMSt sessions and the iSkills workshop, were recruited to participate in a post-intervention focus group to describe benefits and challenges of SPM as well as suggestions for improvement. Informed consent was obtained prior to the focus group session and all participants were given a \$50 gift card upon completion of the session. One-on-one, semi-structured interviews were conducted with the MMSt course instructor and the librarian instructor of the Reference Interview iSkills workshop to obtain their feedback. For the iSkills Reference Interview workshop, student evaluations and comments were obtained via standard evaluation surveys conducted by the University of Toronto's Faculty of Information for every iSkills workshops. This study has been approved by the Research Ethics Boards of York University and the University of Toronto.

Data analysis

Focus group were audio recorded and transcribed. Interviews were not recorded but the interviewer took detailed notes, which also included some direct quotes. A thematic analysis of all post-workshop evaluations' data was completed through a qualitative, interpretive description approach. The focus group transcript and interview notes were not coded, partly because of the limited number of data sources, and in order to not lose sight of the overall picture.

RESULTS

A total of six themes were identified and grouped into the following 3 categories: 1) benefits of SPM, 2) challenges and 3) suggestions for improvement. The main findings of the study are presented in Table 1 and described in detail below.

Category	Theme	Description/ Key findings
Benefits	Reactions to SPM were overall positive	Instructors found that the workshops supported learning objectives for their students and participant rating for this method was very high.
	Attendees found the scenarios to be realistic	Students and instructors found that SPM activities accurately re-produced real workplace situations and the simulated person added a higher degree of realism and efficacy to the workshop.
	Time-outs were very useful to student learners	Time-outs allowed students to re-compose, reflect, obtain feedback and try different approaches to encourage more active reflection during the session.
Challenges	Some student felt unprepared to actively participate in the scenario	Having no workshop details prior to the workshop made some students feel unprepared, whereas others suggested that this made the workshop more realistic.
	The first learner to participate in the scenario sets the tone for others	When the first student learner was successful, follow-up trials tended to model the first, resulting in less discovery of alternative solutions.
Suggestions for Improvement	More opportunities to participate	Students wanted more opportunities to practice their skills, suggesting multiple scenarios, multiple simulated persons and workshops interspersed throughout the semester.

Table 1. Benefits, challenges, and suggestions for improvement of the simulated person method intervention.

Benefits of SPM

Overall, focus group and interview data revealed that student and staff reactions to the SPM activities were positive. Standard evaluations administered after the iSkills workshop had an average rating of 4.9 out of a 5.0 based on the overall quality of the presentation, knowledge of instructor, clarity, and organization. Furthermore, instructors from both MMSt course and iSkills workshop stated that the activity successfully accomplished the pre-planned learning objectives. Similar opinions were shared by their students:

- *“I felt like, coming out of the workshop, I was like “wow, like this is what I’ve been wanting from my classes and now I finally have it.”[FG Participant #7]*
- *“I was a little bit surprised about how helpful I found that interaction in looking at it from different ways.”[FG Participant #6]*

Instructors and students found the SP’s portrayal of characters helped make the scenario more realistic. Compared to a previous role-play activity, one participant found the simulated person’s portrayal to be more realistic than that of their classmates. Furthermore, students recognized reading the SP’s body language as a particularly beneficial challenge when observing or participating in the scenario:

- *“This was a good exercise. It got them (the students) to experientially encounter something that would be hard to do in class. Having a neutral person be this other body was very useful because it then isn’t part of the cohort dynamics. So, from that side, there were lots to like.” [Instructor]*
- *“Because they’re your peers and you know that they are acting, they don’t have the same facial expression or body expression, they’re just reading the lines and suggesting things... It felt like through the SPM method, I was able to take it to a new level and really practice “what would I do in this situation?” [FG Participant #5]*

Students and instructors found the time-outs were beneficial during the activity. Participants found the option to restart or resume the scenario helped them re-compose, reflect and obtain feedback from others:

- *“After the time-out, you realize that you do have those skills and you just haven’t practiced them and being able to practice them was really helpful. So, I think that if I encountered a similar situation, I think, even now, after that workshop, I would be able to look out more for other people’s body language and react in an appropriate way.”[FG Participant #5]*
- *“To have this trained facilitator there to pause, roll back events, comment on expressions/body language in a really detailed, granular way was extremely helpful to the process.” [Instructor]*

- *“In the beginning, even thinking about volunteering was really scary and it got easier as time went on, you could see that people made mistakes and everything didn’t come crashing down”* [FG Participant #1]

Challenges and suggestions for improvement of SPM

Participants in the MMSt sessions reported mixed opinions about the amount of preparation received prior to the workshop date. One participant suggested that receiving the scenario in advance may have given them more confidence to volunteer and other students agreed, citing shyness or anxiety as reasons for not volunteering. Alternatively, one other student suggested that less preparation may have produced a more realistic scenario, requiring moment-to-moment decision-making. Less preparation seemed to decrease participants’ willingness to participate, but provide a more realistic challenge.

Interestingly, in both MMSt course and iSkills workshop, the first volunteer seemed to “set-the-tone” for the rest of the activity. In Section 1 of the MMSt class, the first student volunteering to play the Collections Assistant’s role in the simulation had difficulty expressing their concerns to the ‘Registrar’ (SP) and required feedback from the audience to discover an effective solution. In contrast, in Section 2, the first volunteer quickly found an effective solution. According to the course instructor, the simulation facilitated a productive classroom discussion in the first section that was not replicated in the second one. It was suggested that the quick solution in the second session may have created a model for other learners to follow, resulting in less engagement with the audience members. A similar challenge was described for one of the scenarios of the iSkills reference interview workshop, as illustrated by the following quote:

- *“The second “librarian” to do the second scenario suffered, I think, because the first “librarian” had been so successful. In the end, he did quite well, but he had a rough start and I think he might have done better if he had a fresh start, because the temptation to compare him to the previous “librarian” was strong.”* [Post-workshop student feedback (iSkills)]

It had been suggested that, in future iterations, it may be beneficial to add more branching logic to the scenario to increase the task complexity and produce more consistent outcomes.

Post-interventions feedback suggests that students wanted more opportunities to participate. To encourage participation in future iterations, students suggested splitting the class into small groups and implementing multiple sessions with a variety of scenarios and different SPs. Focus group participants suggested implementing SPM in an introductory course so students may build upon previous performances in sessions distributed throughout the semester:

- *“Another session of simulations would be great”* [Post-workshop student feedback (iSkills)]

- *“Perhaps we can break it up into smaller groups and try it out, because not everyone is comfortable going up to the front and being watched by the entire group.”* [Post-workshop student feedback (iSkills)]
- *“Perhaps if there had been additional time to practice in smaller groups, but I think it was most helpful to give feedback as a larger group and hear feedback as a larger group.”* [Post-workshop student feedback (iSkills)]
- *“I was happy with the training we received. Perhaps a follow-up session to practice more would be great!”* [Post-workshop student feedback (iSkills)]
- *“I wish we had even had one (course) dedicated to doing this workshop.”* [Post-workshop student feedback (iSkills)]
- *“I thought that it might have been a good idea to have a third scenario prepared.”* [Post-workshop student feedback (iSkills)]

DISCUSSION

The main goal of SPM is to provide students with an opportunity to practice learned skills in a safe and controlled environment. Overall, reactions to the workshops were positive and suggested that the scenarios and SP showcased real-life situations in a realistic way. The time-out feature seemed to be a particularly useful way for participants to reflect, recompose and obtain feedback.

Although students found many benefits to the workshop, there was also a desire for more opportunities to participate. Including several scenarios in each SPM session could allow more students to participate. It can also mitigate the ‘first volunteer effect’ described above because is less likely that all first participants will be successful in a session with multiple scenarios. In future workshops, it may be possible to include multiple stations for students to observe multiple scenarios with different SPs. Rotating between scenarios in smaller groups may provide students with more opportunities for active participation and engagement. However, expanding the SPM sessions in these ways will require further consideration of resources and preparation required. Finally, while we have conducted our SPM sessions face to face, the method could be adapted to online teaching. In response to the COVID-19 situation, the SPM lab at York University now offers virtual SPM sessions.

In summary, this study provides preliminary support for the potential use of SPM for teaching ‘soft’ skills in the Information professions. By implementing and improving SPM, educators may provide students with the opportunity to learn these skills in an interactive, experiential learning, way.

LIMITATIONS

SPM could be a resource intensive initiative. These resources included hiring SP trainers and a work-study student as SP as well as faculty and librarian's time for developing, rehearsing, and conducting the SPM sessions. While the ultimate goal is for faculty to eventually learn the method and be able to run it independently, initial investment is required. The study, too, has a number of limitations. Recruiting students from both iSkills workshop and two course sections into one focus group session can increase the risk of sampling bias. Future iterations of this method may benefit from conducting separate focus groups for each workshop. The thematic analysis was performed by one author on a small set of data, which may increase the risk of bias, but is notably more efficient.

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Helping LIS Faculty Know What it's Like to Work in a Library

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ABSTRACT

The current study is a follow-up to a 2019 study that found that practicing librarians viewed the MLIS as irrelevant and outdated. Focus group transcripts from that study were analyzed to uncover additional questions, potential solutions, and suggestions for further study. Participants were concerned that faculty were disconnected from the library as a workplace. The current study suggests the use of faculty development workshops, led by practicing librarians, to help keep faculty current on library practice.

ALISE RESEARCH TAXONOMY TOPICS

education; curriculum; students; teaching faculty

AUTHOR KEYWORDS

faculty development; MLIS; LIS education; public librarianship; academic librarianship

INTRODUCTION

In 2019, practicing public and academic librarians gathered in focus groups (FGs) to discuss curriculum changes to the MLIS at the University of South Carolina (Freeburg & Vera, 2020). This was part of a larger effort to solicit the input of stakeholders regarding proposed revisions to the curriculum. Significant portions of these FGs included conversations about the value of the MLIS. Participants completed the MLIS at different institutions, but they agreed that the MLIS is mostly irrelevant to the practice of librarianship.

The current paper details the attempts by the author to further analyze FG data from the 2019 study in an attempt to uncover additional questions, potential solutions, and suggestions for further study. FG conversations revealed a concern that faculty are not staying up to date with developments in library practice, and that faculty are unaware of the changing realities of the library as a workplace. This led the author to consider questions about what and how much LIS

faculty should know about the workplaces into which they are sending graduates. This was particularly relevant for the author, as they teach MLIS students but do not themselves have an MLIS or experience working in a library. Rather than engage in a discussion of the role of graduate education or the validity of student expectations, the author took these criticisms as valid and, in the current paper, proposes a solution in the form of faculty development (FD). Further research is suggested into models of FD led by practicing librarians that update faculty on changes in the profession, e.g. library practice, technology, and organizational culture.

LITERATURE REVIEW

Student Criticism

A well-documented divide exists in librarianship between what is taught in library school and what professionals do in practice. Students often feel ill-prepared for library practice and ill-equipped to meet employer expectations (Casper & Lopez, 2018; Thomas & Urban, 2018). Specific student criticism of the MLIS includes a perceived overemphasis on theory (Newhouse & Spisak, 2004), outdated technology instruction (Goodsett & Koziura, 2016), and a failure of the degree to recognize the need for courses on pedagogy (Saunders, 2015). A criticism of higher education more broadly is that while students often feel prepared for the workplace, employers disagree (Jaschik, 2015).

While the disconnect is clear, however, there has been little research into ways to overcome the disconnect. Instead, this is too often disregarded as some unchangeable precept of graduate education, i.e., “students hate theory” or “instructors are out-of-touch.” The current study seeks to uncover the presence and extent of this divide in a sample of practicing academic and public librarians, using this analysis to propose a way forward.

Student criticism of the MLIS highlights several questions for the discipline to consider, including how to effectively teach theory and how to get students involved in libraries during their education. A full review of these questions is beyond the scope of the current paper. Instead, the current paper considers how LIS faculty can stay current with changes in library practice. As faculty stay current, they will be in a better position to improve the alignment of curriculum with current practice, thereby addressing a prominent student criticism.

Up to Date Faculty

Not every LIS faculty member has experience working in a library, and though faculty stay current in many areas, they face several obstacles in their attempts to stay current with the day-to-day work of a librarian. For instance, research agendas keep faculty connected to recent literature and new data. Unless a faculty member’s research area relates directly to the library as a workplace, however, it does not serve as a good source of information on changing library practice. Conferences are another way for faculty to stay current with the work of their peers.

Unless faculty attend professional conferences, however, these conferences keep faculty current in research trends rather than practice trends.

FD is yet another way for faculty to stay current. It is becoming more critical in higher education as a way to increase faculty awareness of new educational technologies that support their teaching, expose faculty to different disciplines in an increased call for interdisciplinary research, and increase appreciation for the expectations and unique skills of younger faculty (Austin & Sorcinelli, 2013). Yet, FD within LIS is not typically associated with increasing faculty awareness of the jobs their graduates will occupy. Instead, FD most often includes new faculty orientation, informal mentoring, and instructional development (Hahn & Lester, 2012)—none of which is sufficient for keeping current with changes in the profession. The one-shot nature of faculty orientation means that they are typically overwhelming and less than helpful. There is reason to doubt the effectiveness of informal mentoring given that less than 8% of the respondents reported a process for mentor training, an assessment of mentors, or a reward for mentors' time (Hahn & Lester, 2012). And instructional development is focused on how faculty can better leverage pedagogical tools to make an impact in the classroom.

Perhaps most importantly, these existing ways for faculty to stay up to date involve connecting with other faculty. For FD to meet the criticism of out-of-touch faculty, it must include a connection to libraries and practicing librarians. Faculty more generally have been called to work more closely with employers to learn about the realities of the workplace (Fadulu, 2018). Lenox and Ezell (1988) offered one model for this type of FD in LIS, called Internship for an Instructor. Noting that LIS faculty rarely have the time for direct experience in a library, their approach put faculty to work in libraries. These faculty members were “exposed not only to the procedures inherent in the world of library work but also to day-to-day emerging problems” (Lenox & Ezell, 1988). The current paper suggests that a similar approach can be used to help faculty stay up to date with the profession.

METHODOLOGY

In 2019, faculty and staff at the University of South Carolina, SLIS, embarked on a multi-pronged effort to revise its curriculum in conversations with its stakeholders. The goal of this effort was to inform these stakeholders of a proposal for a revised curriculum, seeking to elicit their thoughts and opinions to further revise this proposal. The study used an interpretivist approach to identify what librarians want from new hires, how they view the profession, and the concerns they have regarding curriculum. It included several FGs, surveys, and social media discussions with students, alumni, and employers in areas where SLIS has a significant presence.

The current study reports on findings from a secondary analysis of FG transcripts. FGs match the interpretivist aims of the study as it allowed the researchers to collect data from group conversation, rather than the isolated opinions of individual actors (Kamberelis & Dimitriadis, 2011). In the 2019 study, six FGs were conducted face-to-face with practicing academic and

public librarians across five states. Each participant had obtained their MLIS from different LIS institutions and were currently working in a library. There was an average of 8-10 participants at each meeting. Each FG was 90 minutes, and participants received a small gift certificate for their time. Following a semi-structured FG guide, the moderator guided participants in discussions of why the profession exists and what librarians need to be able to do. The moderator also explained the proposed revised curriculum to participants and asked for participant thoughts and opinions.

In the current study, the author engaged in a secondary analysis of this FG data, coding for potential ways to address this criticism. Transcripts were coded in Nvivo, and two primary coding categories emerged (Table 1). The first category was *out-of-touch faculty*. This included discussions of curriculum that did not match the lived experience of the profession, the extent to which participants felt faculty stayed current with changes in the profession, and the extent to which they felt the degree could be practically applied. The second category included participant suggestions about how to overcome this problem, including connections and relationship development among librarians and LIS faculty. This led to the proposal of FD as a potential solution. The third category included specific areas where participants thought faculty to be out of touch, which suggests initial topics for FD.

Category	Subcategory
Out-of-Touch Faculty	Up to date faculty, outdated curriculum, doesn't match lived experience of the profession, lack of practical application
Faculty Development as Solution	Faculty connected with librarians, relationships, collaborations
Topics for Faculty Development	Socio-cultural realities of the workplace, Socio-political realities of the workplace, Routine realities of the workplace, New processes for library services, socio-economic realities surrounding libraries

Table 1. Overview of coding categories

FINDINGS

The analysis from 2019 revealed an agreement among participants that the MLIS is largely irrelevant to library practice. Most participants noted at least some level of dissatisfaction with the relevancy of the MLIS to the profession. Many agreed that “[The MLIS] is the ticket that you get punched in order to get a job.” They lamented that the degree did not expose them to “the realities of working in an organization and what that entails.” Foundations courses, in

particular, were described as a “huge waste of money and time.” One public librarian noted, “There was so much of what I did in library school that is completely irrelevant to what I do now.”

Out of Touch Faculty

A consistent theme that emerged in this secondary analysis was the need for faculty to stay current with the realities of the profession. One public librarian cited this as the reason for their positive experience: “I actually had an instructor who was really good . . . And part of what she talked about was that reference was changing and I think she was up on that.” Noting a negative experience, another public librarian suggested that the reason coursework seems overly academic and less practical is that “that’s all [faculty] knows.” Participants agreed that faculty are largely unaware of the realities of working in a library: “The very notion that we are talking about the real world assumes that folks in education aren’t existing in real world experiences.”

Faculty Development

To counter this lack of real world knowledge, several participants suggested that faculty stay connected to libraries: “I think constantly being in touch in these different areas so that the faculty and staff understand them and then can be reflective in terms of what they offer and expose the students to is very important.” Academic librarians suggested developing relationships with library school faculty through “meet-and-greets” and research collaborations. Public librarians suggested that faculty work closely with practicing librarians in the classroom: “The instructor could have brought in individuals to critique our materials because they are actually in the field.” FD provides an opportunity to connect with the profession and develop relationships as faculty learn about changes in library practice. Thus, FD emerged as a potential way to address student criticism of out-of-touch faculty.

Analysis also revealed three specific topics that FD could address. These are the topics most often noted by participants as being outdated and where faculty had the most to learn from practicing librarians. First, participants felt that faculty should know the socio-cultural realities of the library workplace. This included a lack of diversity in the profession: “If [a prospective student] were a person of color or a queer person, I would ask them to really consider the emotional labor that they want to go through in a field that doesn’t represent or respect them.” This also included navigating “difficult exchanges” and “dealing with people.” As one public librarian noted, “We’re no longer getting the easy questions . . . we’re getting people who have never touched a computer.” Academic librarians pointed to the realities of working with the faculty community: “It can hurt you on the level of collaborating or connecting with faculty if you don’t feel as professional as them, or don’t feel like you understand what they do.”

Second, participants wanted faculty to understand the new and revised processes in place for library services: “There is no reference happening in our library. I mean not in the way that I was taught.” Participants wanted the curriculum to reflect the new skills that these new processes

require. This included technological skills: "I want [students] to manage our webpages, our intranet and internet, and it's just not coming through in the [job] applications." This also included pedagogical skills as "librarians end up being accidental teachers." Participants agreed that "we're not adequately preparing our librarians how to teach, or [use] those instructional design strategies."

Third, participants felt that the MLIS should expose students to the socio-economic and socio-political realities that surround the library. Participants pointed to the challenge of homelessness that "is in society and it's right in our spaces." One public librarian noted the increased need for employment centers in libraries: "The economy is getting better, but people still have to apply for those jobs." Changing demographics require libraries to ensure that "the materials that you have [are] reflective of your community." To adequately respond to these changes, students needed to understand how to advocate within shifting socio-political realities: "I have a friend who is a public librarian right now, who the county keeps cutting her budget every single meeting." One public librarian recalled their experience immediately after graduating with an MLIS, during the recession, being asked questions about the budget and grant-writing: "They hadn't told me how to do that. I never had any course work on that."

DISCUSSION

The 2019 study (Freeburg & Vera, 2020) found that practicing librarians do not have a very favorable opinion of the MLIS, viewing it as mostly irrelevant to the practice of librarianship. The current study found that one significant reason for this view is a perception that LIS faculty do not keep up with changes in the profession. This suggests that LIS institutions need to find ways to keep faculty apprised of the changing realities in the work of a librarian. Because participants discussed the need for faculty to connect and build relationships, the current study suggests that librarians and LIS faculty collaborate on FD. The current study makes no suggestions about the exact process for FD, but the author suggests a series of workshops led by practicing librarians with topics chosen by these librarians. The specific areas of concern for participants, in terms of faculty staying current, reveal initial topics that such FD could address. Faculty could learn directly from practicing librarians about the socio-cultural, socio-political, and socio-economic realities of the library as a workplace.

The use of FD to keep faculty up to date is supported by the success of FD in other areas, e.g. keeping up with changes in pedagogy. With a mere change of focus, FD can also begin to address the frustrations voiced by participants over the irrelevancy of the MLIS to the practice of librarianship. So long as librarians direct any such FD, in consultation with LIS faculty, it can initiate positive and significant changes in MLIS curriculum.

Future study

As a function of qualitative research, the nonprobability sampling in this study limits the study's generalizability. Although not a limitation per se, it does suggest the need for additional research to identify how widespread this view of the MLIS is. This study did not ask participants when they received their MLIS, so it is possible that these findings are reflective only of past iterations of the MLIS that are now fixed. It seems unlikely, however, that the degree has self-corrected in a way that would resolve these criticisms entirely.

Furthermore, the study did not directly ask about ways for faculty to stay current. Thus, there are likely several ways to do this outside of FD. However, FD offers a recognizable format for keeping faculty current with a proven track record of success. It also helps overcome many of the barriers keeping faculty away from library practice, e.g. research agendas and academic conferences. Yet, barriers still exist for FD. For instance, research would need to consider ways to make FD within LIS a formal and recognized part of the tenure process. The goal of this study is not to add something else to the plates of faculty, but to streamline a process that improves curriculum.

CONCLUSION

In the current study, graduates of MLIS programs who now work in libraries expressed frustrations over the perceived irrelevancy of this training to their current practice. Participants wanted the curriculum to reflect current and specific challenges, which assumes that faculty are up to date with changes in these areas. Participants outlined several areas where faculty needed to stay current. Rather than engage in a discussion of the role of graduate education or the validity of student expectations, the researcher took these criticisms as valid and offered a solution in the form of FD. In this FD, faculty would learn about the realities of the library workplace from librarians. The library workplace is rapidly changing. To continue to offer a curriculum that prepares students for the library profession, all faculty must stay current—not only with their research and teaching—but with the realities of the workplace.

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“12pm Eastern, 11am Central, 10am Mountain”: Student Contributions to Research on Rural and Small Public Libraries

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ABSTRACT

This paper discusses the role and contributions of master’s students as members of the research team on an IMLS-funded research project on health and wellness programming in rural and small libraries. On this project, students learn myriad aspects of both research and practice, including how to collaborate on a complex project, how libraries function, particularly in this case, rural and small libraries, how to analyze, plan, and evaluate, and how to develop programming.

ALISE RESEARCH TAXONOMY TOPICS

public libraries; education programs/schools; students; community engagement; research methods.

AUTHOR KEYWORDS

student education and research; rural and small public libraries; health and wellness

INTRODUCTION

We often think of LIS student research as being situated within the realm of doctoral education. Research is the *raison d’être* for preparing future faculty. In fact, many LIS programs do not require a research methods class in their master’s programs, and many students avoid them even if they are available, either due to not realizing their relevance to their prospective

careers or due to a fear of becoming enmeshed in something they might not understand. Yet, future information professionals will, indeed, need to have an ability to perform research for multiple reasons whether to promote their libraries to funding agencies and boards, or to prove to administrators that their organizations are providing effective services. And they can learn these skills while working with faculty on research that examines the roles of public libraries in rural and small communities.

“12 Eastern, 11, Central, 10 Mountain” is the mantra for setting up the next meeting for work on the IMLS funded grant, Community Health and Wellness: Small and Rural Library Practices, Perspectives, and Programs, to make sure everyone in each time zone knows when to meet. The goals of this paper are two-fold. First, it discusses health and wellness programming in small and rural public libraries, which is the focus of the grant, then, the ways in which incorporating master’s students into this IMLS grant-funded project contributes to their developing myriad skills related not only to research, but to working together from multiple locations and staying connected through their own social network to help with planning, evaluating, and analyzing.

BACKGROUND

Rural and small public libraries contributing to the health of their communities.

Seventy-seven percent of rural counties are bereft of health professionals, suffering from increased hospital closings, and, thus, poor access to health care ([2017 ALA report](#); [Health Resources & Services Administration](#), 2017; [Rural Health Information Hub](#), 2017). Situated within these environments are rural and small public libraries, which are among the most valued institutions in their communities ([Pew Research Center](#), 2013), often functioning as entities that address health and wellness through resources and public programs (Bonnici & Ma, 2019; Perryman & Jeng, 2020).

In recent years, public library programming has increased, often focusing on health and wellness (Luo, 2018) in the forms of gardening classes, healthy eating, e-health mobile app classes, and health screenings for people of all ages. Bonnici and Ma (2019) described a Blue Zones (BZ) project, whose goals are to advocate for health and wellness in communities around the world. They were interested in learning about public library roles in health and wellness and how these might intersect with the BZ project goals. They found that library directors had many ideas, but implementing them had little support from government. Lenstra’s (2018) interviews with individuals from 39 library systems in North Carolina found that library staff were excited to be able to implement movement programs in their facilities, and that one of the best opportunities occurred during summer reading programs, which included fitness activities such as sports, exercise, and games. To address another facet of health and wellness, the Public Library Association and National Network of Libraries of Medicine (NNLM) have worked together to produce medical resources that public libraries can use when interacting with the general public (Dixon, 2017). As well, OCLC/WebJunction and NNLM have supported health-literacy-related services in public libraries, and public libraries were very involved in helping patrons sign up for the Affordable Care Act (Vardell & Charbonneau, 2017).

However, despite there being some support for such programming, whether through physical fitness or health information provision, in general, rural and small libraries experience barriers that larger libraries may not: resources. Most rural and small libraries serve populations of fewer than 10,000 people, and are only open part time (Swine, Grimm, & Owens, 2013). An IMLS research brief noted that rural and small libraries serve their communities by offering myriad “critical services and information resources” that offer their patrons much-needed support that extends beyond what is thought of as “traditional library services” (p. 9), but often it is hard for those libraries to maintain staff (p. 1), and of those staff, only 1/3 have master’s degrees in LIS, which can, in and of itself, bring challenges.

Professional development: learning by doing.

Students arrive at LIS schools having a wide variety of experiences (Lamb, 2016). Some have been working in libraries for a long time while others are completely new to the field and have only a sprinkling of knowledge as to what it comprises beyond having been patrons of libraries. Thus, it is important to offer experiences beyond classroom learning to not only expose students to various types of information environments, but to deepen their knowledge and understanding of a wide-ranging spectrum of what constitutes working in the field.

Much has been written attesting to the need to re-envision LIS education within the context of the 21st century (Abels, 2016). Some of this re-envisioning refers to adopting and adapting to new forms of technology and transforming libraries creatively, perhaps by promoting types of entrepreneurship or being leaders in developing innovative ways of interacting with communities (Abels, 2016; Heseltine, 2020). Abels (2016) writes that “we must look beyond settings and skill sets generally associated with LIS professionals” (p. 85). Heseltine (2020) suggests thinking about public libraries in terms of their “socioeconomic and cultural impact” (p. 4) and as ever-evolving flexible enterprises that focus on community engagement as a programming resource. Within this vein of promoting community involvement, Overbey (2020) stresses the community impact of public libraries in food deserts and health and wellness programming.

Field experiences are generally considered essential to educating future LIS professionals not only to increase their employability, but to also offer experiences that contribute to their understanding of the connections between research and practice and to foster their identities as librarians (Hoffman & Berg, 2014; Rubenstein, 2017). Librarians often lament that “I didn’t learn that in library school,” but offering field opportunities can alleviate some of these concerns. Perryman and Jeng (2020) described a Texas Women’s University SLIS scholarship program (funded through an IMLS Laura Bush 21st Century Librarians grant) that expands LIS education to include community involvement and participatory research as a way for online students to engage with libraries in their own rural communities, as well as to “develop a new generation of librarians highly competent in using data and technology to empower their own communities” (p. 103). In terms of health and wellness programming and awareness as they relate to public libraries, students are often unaware of the work outside of book lending that libraries do; providing opportunities to be involved in research opens their eyes to new possibilities (Rubenstein, 2017).

CONNECTING GRANT RESEARCH TO EXPERIENTIAL MASTER'S EDUCATION

This grant project seeks to obtain an in-depth understanding of health and wellness programs in small and rural public libraries, how they collaborate with outside organizations to provide these programs, how library staff envision their roles within this context, and how outside collaborators and patrons perceive involvement with library health and wellness programs. On the one hand, there are small and rural libraries that *have* been able to provide programs, but others encounter many barriers. Some of the goals of the research are to develop a model that draws on the results of the research and includes ideas for libraries to draw on to start and sustain health and wellness programs, as well as to create training modules for LIS educators and students in collaboration with research participants.

The project consists of at least 16 case studies of library systems and individual public libraries in small and/or rural areas in the following states: Oklahoma, Vermont, Michigan, and North Carolina. Four individual libraries from each of these four states will be studied, as will, where applicable, the library systems of which those libraries are part. The states chosen for the study represent a cross-section of health rankings (United Health Foundation, 2020): one with very high health scores, one with very low health scores, and two falling somewhere in the middle. As well, each state is very different in terms of infrastructure and state agency involvement in health and health literacy initiatives in conjunction with public libraries, which offers interesting contrasts.

A unique aspect for the graduate student research assistants is that the work presents an opportunity to learn about and focus on how public libraries engage their users and address *health and wellness* in their communities; these aspects of public libraries are often not taught on a regular basis in LIS programs, if at all. Some schools offer courses, concentrations, and programs related to health and medical librarianship or health informatics, but often in reference to medical environments such as academic health sciences libraries, systems, and data analytics. Yet public libraries often play a crucial role towards introducing health information to their patrons, as well as offering ongoing health-and-wellness-related programming that patrons might not be able to obtain elsewhere due to cost (Lenstra, 2018; Lenstra & D'Arpa, 2019; Rubenstein, 2017).

As access to healthcare in small and rural communities has diminished, the role of public libraries as resources in these communities has expanded. By offering an opportunity for MLIS students to participate in research studying such communities' libraries in both a hands-on capacity as well as a research capacity, students are learning both the situatedness of various communities and the intricacies of research. Working with faculty and other students enriches the experience and knowledge of collaborative research, increasing understanding of grant-funded work in particular.

What is the role of the student collaborators in this endeavor? In this particular study, three graduate students attending primarily online LIS programs while living in three different states are collaborating with faculty to gather and analyze data from public libraries in four states (some of which coincide with students' locations but others which do not). In a potential array of confusion, the graduate student in Oklahoma is being shared by two faculty, who along with the student, live in Oklahoma; however, one of those faculty members is doing research in Vermont. Another graduate student and associated faculty member living in Michigan are doing research

in Michigan, while the third graduate student lives in Colorado but attends classes online in North Carolina, where the fourth faculty member lives and is doing the research.

On the face of it, these multiple locations could present some challenges, but in practice, the project is working due not only to the collaborative relationship among the faculty, but to the collaborative relationships being built among the students themselves, who have strived to develop their own social network with each other as they make their way through the research activities. On their own, they have initiated a shared online workspace where they can exchange ideas, and schedule their own online meetings and phone calls in addition to the regular team meetings with faculty. These graduate students bring different experiences to the grant project in terms of prior work and educational experiences, including knowledge of and different ways of thinking about technology, all of which serves to enhance the experience both for them and for the faculty. Together they brainstorm solutions to various challenges and tasks within the project, rather than merely working on their own.

Students on this grant (as many students in LIS) came into their LIS programs with only partial ideas about the complexity of libraries and other information environments and with little formal social science research experience. One student had come from a user experience design background who “did not think of a library as a resource that adapts to community needs” (G. Schneider, personal communication, March 3, 2020); another was aware that public libraries offered “all sorts of education, reference, and readers advisory” (R. Floyd, personal communication, March 3, 2020) but was less aware of the range of resources offered; and the third had “a mental image of a professional at a public library or a school library working with patrons, catalogues, reference and other paper and book tasks. Now...I see this as a gross understatement and cliché” (A. Rose, personal communication, March 2, 2020).

Within the first year of this grant, students have broadened their perceptions of both public libraries and scholarly research. Interviews for the project have been conducted by faculty alone in some cases and in conjunction with students when possible. The students have listened to the interviews, transcribed them, and offered their own perceptions on themes they have noticed in the first round of analysis. They have identified interesting elements found in the interviews, and at the same time offered perspectives on what they are seeing in library calendars, websites, Facebook and Twitter; one student stated, “So far my research on rural public libraries...has centered around examining social media related to health and wellness programs. I doubt I would have exposure to this type of programming promotion if I was not working on this grant” (G. Schneider, personal communication, March 3, 2020). The students’ work has been crucial to successful administration of the grant and in deriving thoughtful observations that will help in developing our model and modules important to the grant’s completion, but it has also been crucial to their own understanding and knowledge of what happens in public libraries and in research settings.

One research assistant stated,

I had no working experience in public libraries prior to starting the MLIS program...I knew public libraries provided all sorts of education, reference and readers advisory, but I thought a lot of the education was in technology and the reference was mostly where to find things in the library...Working with this grant has shown me...that understanding the local community – both the resources and

the people – is critical in creating useful and effective programming and collections (R. Floyd, personal communication, March 3, 2020).

In addition to analysis and depending on their location, students on the grant are gaining valuable experience in field work while accompanying the researchers on interviews and touring libraries. Their work comprises direct observation on-site that affords them a more expansive view of public librarianship while interacting with library directors, staff, and patrons.

Another research assistant noted,

My work with the grant has been especially eye-opening when it comes to understanding rural library systems...many are focusing on the critical needs of the community, especially in health and medical topics, such as programs to help educate patrons on nutrition, health literacy, and health conditions that can make healthy living difficult. Librarians are looking for ways to feed the community's children during the summer, help older generations figure out their social security rewards on computers they are unfamiliar on how to operate, and provide services that may not otherwise exist in the town or even the county...Many ...echo the same virtue: even if they can help only one person who seeks out their assistance, then it is all worth it, to know they improved something for that one patron (A. Rose, March 2, 2020).

Through this project, the research assistants are becoming more attuned to the complex network of partners who work with public libraries, including nonprofits, government, and private businesses interested in health and wellness, and how such collaborations contribute to the library as a place in the community. The students are examining pertinent documents such as annual reports and strategic plans, which are required by some state libraries for continued financial support, and learning about ethical research practices. As well, they are engaged in practical activities not normally found in the classroom, such as interacting with Advisory Board members who are deeply rooted in work related to the grant – some with public libraries, others through research in public health.

With many LIS programs being online and not requiring students' presence on campus, there are fewer opportunities for them to work as funded GAs, and often the opportunities that do exist for on-campus students are in their schools' academic libraries and not public libraries. The work the research assistants are doing for this grant makes their LIS education "real" in the vein of practicums, internships, and class projects that ask students to 1) contact and interview librarians or other stakeholders; 2) observe library activities in order to gain information relevant to the field; or 3) to identify and gather documents such as annual reports and strategic plans.

INTO THE FUTURE

At the time of this writing, our grant has not yet reached its one-year mark out of the three years allocated but data gathering has been in "full steam ahead" mode. The students have been gaining experiences, information, and perspectives not only about library and information science research, but about public libraries and, especially, rural and small public libraries and their unique roles within their communities.

The students have already been incorporating what they have learned into their classes, "I've started thinking about health literacy...in a new context and have done or am working on

several course projects with the theme of physical health and the library. More and more I want to work in a public library helping develop health and wellness programming and collections”; and “My experience working on this grant continues to support the idea that public libraries should evolve and provide programming based on their community needs” (R. Floyd, personal communication, March 2, 2020).

As we go forward, we anticipate that our students will not only learn but make valuable and significant contributions to this research. As a number of us learned ourselves as students in our master’s and PhD programs, LIS students are more than students preparing for a profession; they are junior colleagues who have much to offer and from whom we, too, learn. While “12 Eastern, 11, Central, 10 Mountain” is indicative of the need for clarifying when each team meeting will occur, it has been clear that the experiential work of research has and will continue to contribute to the students’ perspectives on libraries, especially public libraries, health and wellness, and, of course, how research is done and how it can be activated in their education.

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Neurodiversity in Higher Education: Library and Information Science Educators Address the Learning Needs of Students with Intellectual Disabilities

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ABSTRACT

Research-based evidence is needed to raise awareness of the need for full equity and representation of individuals with disabilities in higher education including students with intellectual disabilities (ID). This research presents details in American law related to individuals with disabilities, describes intellectual disability according to widely recognized authorities, discusses implications for standards for inclusive education, identifies existing postsecondary education (PSE) course and program types, and addresses library and information science (LIS) educators' opportunities for preparing graduate library students in serving and instructing individuals with ID in higher education. Suggestions for future research to further investigate the information needs of stakeholders who impact the success of PSE students with ID including individuals with ID; parents; K-12 teachers, counselors, and support staff; PSE administrators, faculty, and support staff; legislators and policymakers; government service providers, and community leaders and groups, as well as continued research to investigate how LIS educators are involved in teaching graduate library students to instruct and support the education of PSE students with ID.

ALISE RESEARCH TAXONOMY

information literacy; curriculum; standards; academic libraries; social justice

AUTHOR KEYWORDS

intellectual disabilities; higher education; postsecondary education; disability services; instructional librarian; inclusion

INTRODUCTION

A relatively short time ago, high school graduation and transition to undergraduate college and university programs were experiences obscure to many individuals with intellectual disabilities (ID). As a result of new protections in American law (Individuals with Disabilities Act, 2004), which were followed by additional clarification of the definition of postsecondary education student with ID in the Higher Education Opportunity Act of 2008, diversity grew in higher education due to increased enrollment by individuals with ID (Grigal, Hart, & Weir, 2013; Plotner & Marshall, 2014). (*Higher education* is defined as educational opportunities provided through colleges and universities.) The idea of neurodiversity in higher education (Grant, 2009) ushered in new implications for how institutions of higher education include individuals who experience intellectual differences. Programming must be designed for all eligible individuals, which includes individuals with characteristics considered to be diverse such as race, ethnicity, nationality, gender, sexual orientation, religion, age, socioeconomic status—and ability. In this new higher education environment, everyone benefits from what traditionally underrepresented groups or groups once absent bring to the learning environment.

There is evidence from a 2018 survey disseminated through email and social media of “a trend within library graduate education that is exclusive to teaching library graduate students practically and adequately about disability and accessibility” (Pionke, 2020, p. 266). Based on the study’s survey responses by current graduate students, Pionke found that library graduate education students want better graduate education curriculum and instruction to prepare for serving and supporting individuals with disabilities. In response to Pionke’s findings from the LIS field and to address the universal need for continued full equity and representation of students with ID in higher education, this exploratory analysis of research was designed to produce findings that will inform and accelerate teaching and supporting all individuals who attend higher education, particularly individuals with ID, which may result in the restructuring of educational environments.

Today’s higher education policies and procedures have significant implications for faculty teaching and student learning experiences for students with ID (Ryan, 2014; Thoma, 2013). When writing about the educational needs of individuals with ID, Kelley and Westling (2019) state that educational programming beyond high school known as *postsecondary education* (PSE) programs “are not two-year vacations, respite care, or full-time activity centers” (p. 5), and in contrast, “a postsecondary education program for individuals with ID should intentionally provide the structure, support, and learning opportunities that will be success-oriented and lead to greater independence as an adult” (p. 5). Unlike when educating students without diagnosed disabilities, for the benefit of students with ID higher education policies and practices must embrace institutional collaboration with social service agencies and/or school districts to identify, collect, and analyze student evaluation data. According to Plotner and Marshall (2015), PSE programs must collaborate with adult agency partners when planning and delivering courses to improve the likelihood that knowledge and skills gained during PSE will lead to appropriate employment outcomes for students with ID. Sheppard-Jones, Kleinert, Druckemiller, and Ray (2015) further point out that even when adults with ID complete PSE programs, they often require ongoing supports through state and federally funded developmental disabilities waivers.

RESEARCH QUESTIONS

To fill gaps in educators' imagination and understandings of PSE students with ID, this research highlighted relevant facts and published examples for instructing and supporting students with ID while answering these research questions: What is intellectual disability? How common is it for individuals with ID to attend PSE programs? What are standards, quality indicators, and benchmarks for inclusive higher education for individuals with ID? How are LIS educators leading change at institutional and program levels for the benefit of students with ID?

INTELLECTUAL DISABILITY

According to the American Association of Intellectual and Developmental Disabilities (AAIDD) frequently asked questions website, “[i]ntellectual disability is a disability characterized by significant limitations both in intellectual functioning (reasoning, learning, problem-solving) and in adaptive behavior, which covers a range of everyday social and practical skills. The disability originates before the age of 18” (AAIDD, 2019, para. 1). Further, according to the AAIDD website, the term *intellectual disability* (ID) denotes the same population once labeled *mentally retarded* (MR). It has taken time for MR language to disappear in legislation, regulations, titles of academic programs and professional organizations, and as used by the public. Unlike the diagnosis of MR, ID is not determined by an IQ test, but instead, ID is diagnosed by a complex assessment in the areas of intellectual functioning and adaptive behavior, which includes an assessment of conceptual skills, social skills, and practical skills. This present research reveals that individuals with ID may also be identified as having non-verbal learning disabilities (Russell, 2020); learning disabilities, attention-deficit hyperactivity disorder, and/or behavioral/emotional disorders (Bakken & Obiakor, 2020; Grigal, & Papay, 2018), or Autism Spectrum Disorder (Cox, Thompson, Anderson, Mintz, Locks, Morgan, Edelstein & Wolz, 2017).

In 2006, Hart, Grigal, Sax, Martinez, Madeleine, and Will reported that education after high school had become an opportunity for an estimated 2,000-3,000 students with ID annually who were eligible for PSE opportunities. Education after high school for this population is extremely important given the research indicating that when compared with their peers, individuals with ID typically earn less, are engaged in lower skills jobs, experience higher rates of poverty, and have limited access to employee benefits (Stodden & Dowrick, 2001; Wagner, & Newman, 2015). Decreasing the high number of unemployed individuals with ID must be a matter of serious concern for all PSE educators, including library and information science educators, who have a stake in the future of higher education. Promising findings by Sannicandro, Parish, Fournier, Mitra, and Paiewonsky (2018) in a quantitative study of 2008-2013 Rehabilitation Services Administration 911 files indicate that PSE was associated with increased employment, increased weekly earnings, and decreased reliance on Supplemental Security Income. Other promising findings are reported by Qian, Johnson, Smith, and Papay (2018) who conducted a quantitative study of community and technical college students with ID. They found that predictors associated with paid employment outcomes were participation in inclusive classes and campus events; prior paid work experience; and participation in volunteering and/or community services.

Under the IDEA (2004), which mandated equity, accountability, and excellence in education for individuals with disabilities, two- and four-year public and private institutions of

higher education provide programs with federal support for high school graduates with ID, age 18 to 22 (Hart, Grigal, Sax, Martinez, Madeleine, & Will, 2006; Grigal, Hart, & Weir, 2013; Sannicandro, 2016; Sannicandro, Parish, Fournier, Mitra, and Paiewonsky (2018). PSE programming for individuals with ID is a response to advocacy predominately by parents who want information and guidance, safety, and a focus on employment for their children (Griffin, McMillan, Hodapp, 2010) and other disability advocates who maintained that federally funded institutions must open their doors to enable individuals with disabilities to benefit from their right to education until their 22 birthday. Until recently when postsecondary programs for individuals with ID emerged, many individuals with disabilities had no choice for where to receive education services guaranteed in the law expect to remain in high school. For individuals with intellectual and physical disabilities, remaining in high school until their 22nd birthday was typically considered unacceptable when compared to typical peers who at age 18 exit high school immediately following senior high graduation. The bottom line has been that even though an option was staying in high school for three more years, it was not an acceptable option for most.

INDIVIDUALS WITH INTELLECTUAL DISABILITY AND PSE PROGRAMS

According to the U. S. Department of Education, National Center for Educational Statistics (NCES, 2019), *Digest of Education Statistics*, 2017 (NCES 2018-070), Chapter 3, in 2015-16, 19 percent of male students and 20 percent of female students in PSE reported having a disability, including ID. NCES (2019), reports that between 2000 and 2017, total undergraduate enrollment in degree-granting postsecondary institutions was 16.8 million students. To determine how many colleges and/or universities offer PSE programs and in which areas of the United States programs are located, the researchers analyzed the ThinkCollege.net website, which is a project of the Institute for Community Inclusion at the University of Massachusetts Boston funded by grants from the Office of Postsecondary Education, US Department of Education. We found that there are currently adult learning PSE opportunities for individuals with ID in 49 states. Opportunities are in an array of college and university course types attended by students with and without disabilities including non-degree programs (60), certificate programs (169), and other combinations (56) of options for a non-degree, certificate, and degree programs. In light of the U. S. Department of Education, National Center for Educational Statistics (2019), *Digest of Education Statistics*, 2017 (NCES 2018-070), Chapter 2, 2015-16, which reports that in the U. S. there are 1,579 2-year colleges, and 3,004 4-year colleges, the number of PSE programs for students with disabilities is small when compared to the number of U. S. colleges and universities.

Individuals with ID are also eligible for community-based programs designed to provide environments where experiential learning can occur. Community-based programs, while useful social environments are not an alternative to PSE. Wintle (2015) studied community-based programs to determine what steps these programs take to prepare students with ID to participate in PSE programs. Also, the study revealed that students with ID preparing for PSE programs were those who could function in a school setting without disruptive behavior; had medium needs; had a circle of support that included parents, caregivers, and community members; were able to provide own self-care, and had educational and career aspirations. Additional key findings in the Wintle study were that individuals with ID need focused instruction to build

literacy skills; copy and/or take notes and complete worksheets; literacy skills for reading, and literacy skills for building recall and summary skills. To be prepared for college and/or university experiences, it was also concluded in the Wintle study that individuals with ID preparing for PSE need opportunities to observe actual academic activities at the university.

STANDARDS FOR INCLUSIVE HIGHER EDUCATION

According to Grigal, Hart, & Weir (2012), the *Think College Standards for Inclusive Higher Education* created at the Institute for Community Inclusion at the University of Massachusetts Boston provide a framework for a model PSE program and guidance for facilitating participation for students with ID on college campuses. Their model includes eight key elements: academic access, career development, campus membership, self-determination, alignment with college systems and practices, coordination and collaboration, sustainability, and ongoing evaluation. Grigal et al. (2012) assert that students with ID need access and support to participate in college and university organizations and residential life facilities; to participate in co-curricular activities such as student organizations, practica, and service-learning opportunities, and to use technology devices for communication and completing assignments. Also, individuals with ID need to engage in social activities with students without diagnosed disabilities who serve as role models and natural supports. The current transformation to more diversity in higher education environments together with the use of the *Think College* standards suggest many implications and opportunities for LIS educators to educate and prepare graduate library students for roles and responsibilities identified by Benjes-Small and Miller (2017) as an instructional librarian who wears the hats of designer, teacher, teaching partner, advocate, project manager, coordinator, and a lifelong learner.

The *Think College* (Grigal, Hart, & Weir, 2012) standards alongside the Association of College and Research Library's (ARCL) *Framework for Information Literacy for Higher Education* (2016) provide an outline (Table 1) for identifying examples of information literacy abilities to include as positive learning outcomes for students with ID. These learning outcomes reflect Think College basic premises and the six ARCL frames, which are centered on the premise that information authority is constructed and contextual; information creation as process; information has value; research as inquiry; scholarship as conversation; and searching as strategic exploration.

<i>Think College Standards (2012)</i>	<i>ARCL Framework (2016)</i>
	I can with assistance:
Academic Access	interpret course descriptions and select courses of personal interest.
Career Development	compare and contrast descriptions of jobs and careers.

Campus Membership	inquire and communicate about joining campus organizations.
Self-Determination	retrieve and read authoritative sources to make life choices.
Alignment with College Systems	access and use technology and digital materials.
Coordination and Collaboration	complete applications for internships and practicum.
Sustainability	select and use appropriate sources about funds for tuition and other costs.
Ongoing Evaluation	analyze assignment and course evaluation data.

Note: Based on the *Think College Standards for Inclusive Higher Education (2012)* created at the Institute for Community Inclusion at the University of Massachusetts Boston, and the Association of College and Research Library's *Framework for Information Literacy for Higher Education (2016)*.

Table 1. Teaching Library Graduate Students about Inclusive Learning Outcomes for Postsecondary Students with Intellectual Disabilities

As this outline reveals, graduate library students should be prepared to respond to students with ID who are learning measureable academic, cognitive, and technical skills relevant to participation in college, jobs, and careers. Most certainly, today's academic librarians should be prepared in a variety of strategies to instruct and facilitate information literacy learning for students with ID in response to widely accepted standards for inclusive education. Moreover, in academic libraries there are spaces that should be arranged to reduce student intimidation, anxiety, and uncertainty about obtaining reference services; using public access computers, and studying and taking exams in a space that is free from major distractions yet open to the mainstream activities of all students. It is increasingly common for Centers for Listening, Speaking and Writing to be located in academic library buildings and for centers to make available both library faculty instructors and informed student assistants. Academic librarians are prepared to learn from subject faculty about various aspects of course content, assignments and projects modified for students with ID, and they can serve as an instructor present in the library to communicate with the student. Academic libraries are spaces where there is clear signage, visible organization and placement of materials, and library personnel whose responsibility it is to anticipate students' questions, preferences, and needs and to respond appropriately.

When students with ID use the library in-person and then need guidance in accessing needed public or personal transportation, academic library personnel can answer questions and

assist in facilitating bus, taxi, ride-sharing, and other naturally occurring transportation options. Academic librarians can guide and facilitate students' access and communication with disabilities services provided by that college or university office. In addition to library orientation sessions and tours, academic librarians can provide personal instruction or instruction in small groups about the use of needed technology such as personal devices to text, email, and access electronic resources and platforms for instruction. Individuals with ID along with their peers can use the library for meeting with mentors, tutors, and campus ambassadors. And, like Hall, Meyer and Rose (2012) suggest, academic librarians are well-positioned to provide education and training to college and university faculty on universal design, a research-based framework and principles (Burgstahler, 2015) for development of learning environments that accommodate individual learning differences, which are now referred to by name in IDEA (2004) and other U. S. laws. Academic librarians can also provide parents and guardians access to information and resources about intellectual disabilities and about their rights to participate in their student's PSE programs.

LIS EDUCATORS LEAD CHANGE AT INSTITUTIONAL AND PROGRAM LEVELS

A review of published literature reveals that libraries continuously improve physical access to library spaces and some academic libraries are actively and directly involved in addressing the learning needs of students with ID. For example, Albertson and Whitaker (2011) report that a LIS master's student service-learning project provided access to technology and training contributing to personal empowerment in individuals with ID as master's students gained insights about the learning needs of individuals with ID. Anderson (2018) reported evidence that librarians' awareness of ASD through educational opportunities is the first step in tailoring the library environment, providing access to resources, and creating special interest group opportunities for social interactions for individuals who are otherwise typically alone.

Brannen, Milewski, and Mack (2017) reported that the University of Tennessee (UT) Knoxville formed an Assistive Technology and Accessibility Committee with the mission to assess and make recommendations about UT Libraries' practices for serving college students with disabilities using library-owned instructional materials and technologies. They also recommend incorporating universal design principles when planning for library instruction and outreach to college students with ID. Conner and Plocharczyk (2019; 2020) provide evidence that the academic library can successfully offer book clubs to provide environments for learning and socializing for college students with ID. Kowalsky and Woodruff (2017) created and published a guide for creating inclusive library environments. Murphy, Amerud, and Corcoran (2019) report that although partnerships between academic libraries and institutions' disability services vary across North America, it is encouraging that inter-unit partnerships exist to provide opportunities for enhanced student services and learning supports promoting success for individuals with ID.

SUMMARY

The purpose of this research was to communicate research-based evidence to raise awareness of the need for continued full equity and representation of individuals with disabilities

in higher education including students with ID. This research presents details in American law related to individuals with disabilities, describes intellectual disability according to widely recognized authorities, discusses implications for standards for determining learning outcomes in inclusive education, and addresses LIS educators' opportunities for leadership in teaching graduate library students. When compared to the total number of U. S. two- and four-year colleges and universities, this research indicates that the growth of PSE programs for individuals with ID disappointingly remains remarkably low.

Moeller (2019), cautions that “[i]n the United States, current conversations within higher education and academic librarianship around resilience and professionalism create additional barriers to inclusion and exclude the lived experiences of those with disabilities” (p. 456). She points out that “libraries must enact structural change to create and promote a culture of inclusion and equity for both library users and library workers” (p. 456). In teaching about developing culturally competent library professionals, Cooke (2017) pointed out that the tendency toward a passive acceptance of using a “one-size-fits-all approach to services” (p. 48) has in the past too often been the case. These noted failures and/or refusals can be addressed and overcome in many important ways as this research emphasizes when LIS educators prepare graduate library students for instructing and serving students with ID. This research emphasizes that academic librarians must be informed and proactive in using information and providing instruction and services in a manner that is easily understood by individuals with ID, their faculty members, educational service providers, and their parents or guardians who choose to participate.

The present analysis of research provided significant evidence for promoting the long past-due transformation away from a deficit model of disability wherein human conditions are viewed as a deficit or problem to be solved or eliminated through medical and/or educational interventions. The idea of neurodiversity in higher education (Grant, 2009) has implications for how institutions intend to include students. The use of the concept of neurodiversity embraces the premise that learning differences among people are the result of naturally occurring variations and that all human brains learn differently. Therefore, supporting neurodiversity in higher education should be the goal, not the exception.

In addition to answering identified research questions, this research identified the need for future research that will address stakeholders who impact the success of PSE students with ID including individuals with ID; parents and faculty members; K-12 teachers, counselors, and support staff; PSE administrators, faculty, and support staff; legislators and policymakers; government service providers, and community leaders and groups. Future research should also address how higher education offices for disability services address the inclusion/exclusion of students with intellectual disabilities. The present research also made clear that LIS educators have opportunities to teach professional librarians to be knowledgeable, compassionate, and competent higher education leaders and providers of information literacy instruction, and information resources and services to all PSE students including individuals with ID. Future research should continue to investigate graduate library students' impression of their preparation for serving individuals with disabilities and how practicing libraries are involved in the education of PSE students with ID.

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The Potential to Transform: Information Behavior Theory and Reference Service Professional Education

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ABSTRACT

Information behavior is a critical research area for informing research and information services. The growth of information behavior research over the past few decades has resulted in theories, models, and concepts that can transform thinking about reference and information service. This study explores the extent to which these theories, models, and concepts have been integrated into reference professional education through a syllabus study and interviews with instructors. Preliminary results indicate that inclusion of information behavior theories, models, and concepts remains limited and suggests that a transformation in reference professional education is yet to come.

ALISE RESEARCH TAXONOMY TOPICS

education of information professionals; information services; information practices; information needs; information seeking; information use

AUTHOR KEYWORDS

professional education; information behavior theory; reference and information service

INTRODUCTION AND RELEVANT LITERATURE

Research and information services (RIS) education is an area that can be informed and enhanced by information behavior (IB) research. RIS practice needs to be based on an understanding of how users seek information to fill information needs, and what they do with that information once they have found it. That understanding is based on the complex mix of users' cognition, affect, and behaviors. Despite IB being an integral part of RIS, information behavior theories, models, and concepts (IB TMCs) are not well integrated into RIS practice and

education. In her study of library-related trade publications, Kingrey (2002) found that information seeking concepts were not present. In their study of professional associations' RIS-related competency standards, Hicks and VanScoy (2019) found that information behavior was generally not treated as an area of expertise.

The values and preferences of RIS professional educators may underlay the lack of attention to IB TMCs in RIS practice. O'Connor (2011) found that "information seeking behavior" was in the content of 43% of the RIS syllabi that she studied. This figure was a dramatic reduction from earlier studies that found the concept in 79% (Powell & Raber, 1994) and 77% (Broadway & Smith, 1986), suggesting that there is a widening practice-theory gap present in RIS education. This has consequences for RIS professionals who may enter service without a knowledge base that will inform their practice.

The growth of information behavior research over the past few decades has resulted in theories, models, and concepts that can transform thinking about reference and information service. This study investigates the extent to which IB TMCs are integrated, or merely represented in RIS professional education. The findings will suggest opportunities for IB TMCs to transform RIS professional education.

The research questions for the study are:

1. To what extent are information behavior theories, models and concepts integrated into syllabi and textbooks for basic reference courses in North America?
2. To what extent do reference instructors consider information behavior theories, models and concepts in preparing their basic reference courses? Are there common characteristics or perspectives of instructors who integrate them in their courses?

METHODS

This study is comprised of two phases. Phase One focused on the study's first research question. This phase consisted of identifying the basic RIS course in library and information science (LIS) programs in North America and conducting a content analysis of provided syllabi and textbooks. Phase Two is a series of interviews of select RIS instructors. Phase One is complete, so results will be reported in this proposal. Phase Two is scheduled and we expect preliminary results to be ready for the conference.

In Phase One of the study, the fundamental RIS courses at ALA-accredited programs in North America were identified. Although these courses had widely differing titles, the common aspect was that they were the first elective or the core course that focused, at least in part, on information services. Once the courses were identified, the ten publicly available syllabi were downloaded. Where syllabi were not available, an email was sent to the identified course instructor explaining the study and requesting a copy of the course syllabus and reading list. Emails were sent to 83 instructors, and 46 syllabi were sent for inclusion in the study. The total population included 56 syllabi.

Through content analysis, terms used to indicate that IB TMCs were included on the syllabi (i.e., information behavior(u)r/behavior(u)rs, information practices, human information interaction, user behavior(u)r/behavior(u)rs, information-seeking) were identified. Specific IB TMCs included in the syllabus, and the location of these terms and specific IB TMCs, were noted. Readings related to IB TMCs were recorded, and the location of these readings (i.e.,

whether they were concentrated in particular weeks or spread throughout the course) was documented.

Three researchers conducted the coding. They individually analyzed a small subset of syllabi and compared findings in order to come to consensus on analytic coding. An acceptable level of coder consensus, 85%, was reached (Connaway & Radford, 2016). The remainder of the syllabi were divided among the research team for coding. In addition, the required textbooks noted in all syllabi were split among the coders and analyzed for inclusion of IB TMCs. Finally, all of the readings listed on the syllabus, on the reading list, or at the end of textbook chapters were compiled. The IB TMC(s) for each reading were identified from the title or from the article itself. The number of times each IB TMC occurred in a unique syllabus/reading list or textbook was tallied.

In Phase Two of the study, using a theoretical sampling approach, RIS instructors who shared their syllabi were interviewed. Sampling was based on status (faculty, doctoral student, or adjunct faculty) and according to the extent to which IB TMCs were integrated into their courses. The selection of these instructors will allow for in-depth investigation of individual and contextual factors in the integration of IB TMCs into reference courses, such as knowledge of information behavior, autonomy in course design, and orientation toward RIS professional education.

PRELIMINARY RESULTS

The results presented in this section include only those for Phase 1. Results for Phase 2 will be included in the presentation.

The results of the analysis show that about two-thirds of basic RIS courses include some information behavior content. In 15% of the courses (n=8), IB TMCs were substantively integrated, meaning that IB concepts and readings appeared throughout the course or were the topic of a course week and a major assignment. In 25% (n=14) of the courses, IB TMC were included in the course through an early week on IB or a few readings. In 29% (n=16) IB TMCs were minimally treated, appearing in the course title or description, but not supported with course topics or readings. In 31% (n=17) of the courses, there was no reference to IB TMCs.

Eleven textbooks were identified in the syllabi. Most textbooks treated IB TMCs minimally, if at all. In textbooks that included IB TMCs, they tended to appear in early chapters on fundamental concepts or in chapters on RIS for children or diverse populations. Only one assigned textbook treated IB TMCs substantively (Hirsh, 2018).

Kuhlthau's information search process model (e.g., Kuhlthau, 2004) was the most-reference IB TMC. It appeared in 16 syllabi and their associated reading lists, and in three textbooks. Savolainen's everyday life information seeking (1995) appeared in nine syllabi and five textbooks, followed by Taylor's information needs (1968) in six syllabi and six textbooks.

DISCUSSION

The results of the first phase of the study suggest that the extensive IB research and model development in recent years has not yet been integrated into foundational RIS courses. Kuhlthau's information search process model is by far the most integrated model, yet it is only mentioned in fewer than half the courses.

These preliminary results are limited by the incomplete picture of the RIS courses that is provided by syllabi and reading lists. In Phase Two, instructors of courses will be interviewed to determine whether IB TMCs are presented in ways that syllabi and reading lists do not reveal and the reasons by IB TMCs are no, or are only minimally introduced.

The preliminary results suggest that a transformation in reference professional education is yet to come. The minimal integration of IB TMCs into RIS professional education may explain why information behavior does not play a greater role in professional scholarship or professional documents. For transformation in both professional education and professional practice, information behavior scholars and RIS instructors must work together to close the theory/practice gap.

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Instructional Design in LIS Education: Preparing for New Educational Roles in an Interconnected World

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ABSTRACT

As information professionals connect with and educate their patrons in new ways, instructional design takes a more prominent role in the careers of those working in library and information sciences. Despite this growing need, some MLIS programs do not have courses that emphasize instructional design competencies. This paper describes the development of an Instructional Design course in an MLIS program, and details how the course content is aligned with instructional design competencies. Preliminary feedback from students is also shared. This paper provides a justification and model for the development of an instructional design course in other MLIS programs.

ALISE RESEARCH TAXONOMY TOPICS

curriculum; pedagogy; online learning

AUTHOR KEYWORDS

instructional design; curriculum; pedagogy; online learning

INTRODUCTION

As the librarian's instructional role online expands, the demand for information professionals who have instructional design (ID) competencies also increases. In a search of the ALA Joblist over two days in February and March of 2020, fifteen current positions, all in academic libraries, mentioned instructional design competencies, with several including a preference for ID coursework or experience. In addition, at least fifteen other postings included competencies in the job duties and requirements that could fall under instructional design, and these included positions in not just academic libraries, but in school and public libraries as well. Noteworthy, though, is that in a content analysis of the course offerings of the 62 ALA-accredited Master's programs in LIS, only nine programs appeared to offer a course that focuses on or includes instructional design. Given the overlap between competencies in ID and many librarians' job duties (Nichols Hess & Greer, 2016; Turner, 2016), integrating instructional design into the MLIS curriculum will ensure that our graduates are prepared for the online instructional roles they will take on in their careers. Both of the authors have seen the need for

these competencies and, one by designing the course and the other by taking the course as a MLIS student, believe that the integration of an instructional design course into an MLIS curriculum will increase the value of higher education for librarians, and ensure information professionals have adaptable skills to maintain relevance as online instruction grows.

INTRODUCTION TO INSTRUCTIONAL DESIGN

Instructional design is the systematic method of using pedagogical techniques and learning theory to create instructional content and learning environments (Seel, Lehmann, Blumschein, & Podolski, 2017). Instructional design's genesis can be traced to the development of military training, and most of ID's focus now is on professional training (Seel, 1989), but it can be used in a variety of different settings, including to create tutorials, courses, and curricula. Instructional design is typically used to develop content that exists online, but that is not its sole function, as the principles of ID can be used to plan any sort of instructional content or learning environments.

There are several models used in instructional design, but the most well-known model is ADDIE, which stands for Analyze, Design, Develop, Implement, and Evaluate. In the Analyze phase, instructional designers attempt to understand the instructional need, understand the characteristics of their learners, and examine the context of the learning environment, like what technology is at hand, what ability and knowledge instructors have, and if learners will be able to access online content. The next phase of ADDIE is the Design phase. Here, instructional designers develop learning objectives based on the information gathered during the Analyze phase. They also consider how learners would demonstrate that they have accomplished the learning objectives, be it a test, a project, or a demonstration. Then, designers determine what sort of instruction, given the constraints of the learning environment and the characteristics of the learners, would best meet learner needs. In the Develop phase, instructional designers engage in the process of creating materials or selecting materials to be included in the learning environment. The fourth phase of ADDIE is the Implement phase, where the instructional content is launched. The last phase, Evaluate, asks instructional designers to engage in assessment at several levels: the quality of instruction (if applicable), student learning, and the quality of the instructional content. With the information gathered from evaluation, the process can begin again with the goal of revising instructional content and delivery mechanisms, and to make improvements in instructional facilitation.

Other ID models, like the Kemp Model, the Dick-Carey Model, and the SAM Model, are very similar to ADDIE, typically beginning with understanding the learners, developing objectives, designing content, and evaluating learning success. The Kemp Model differs in its emphasis on project management and planning and revision throughout the process. The Dick-Carey Model has detailed steps within each phase. The SAM Model includes rapid-prototyping

throughout the phases. Because of the similarities among all of the models, some see ADDIE as more of a framework than a model (Bichelmeyer, 2005).

Some instructional designers argue that ADDIE is too rigid and does not reflect the actual process of instructional design (Allen & Sites, 2012; Jung, Kim, Lee, & Shin, 2019). However, ADDIE can work as an iterative process rather than a waterfall approach, with evaluation occurring throughout the Design and Development stages, integrating improvements throughout the process (Nichols Hess & Greer, 2016). More pointedly, though, critical instructional design argues that we need to think more deeply about questions of how to reach students, engage in discussions, and encourage relationships, and that ADDIE or any other ID model does not address this (Morris, 2017).

Ultimately, though, instructional design provides a framework for strategic thinking and brainstorming to address an instructional opportunity. This is at the heart of what many librarians do when trying to create instructional interventions to meet the many needs of their patrons, and yet is not always included in MLIS curricula. Even if it is covered in a course focused on instruction, this course likely does not provide the breadth and depth of information about ID that will be necessary for many of our students when they are asked to create online modules, tutorials, instructional videos, and webinars as part of their professional duties.

ID CURRICULUM IN AN LIS PROGRAM

While many LIS programs have a course that addresses teaching and learning or information literacy instruction, including at the authors' institution, most do not have a course dedicated to instructional design. We cannot ask MLIS students to be expert instructional designers, but a course in instructional design allows them to understand the process and competencies that come with creating online and/or technology-enhanced education. Turner (2016) argues that ID should be integrated into core courses. At Pitt, we have integrated design thinking, which has many similarities to instructional design, into our core courses, but instructional design remains an elective.

To develop the course, one of the authors, who has a doctorate in instructional technology, used an iterative version of the ADDIE method herself to develop an asynchronous, online course. This process began with an examination of several job postings that mentioned instructional design. The author had hired an Instructional Design Librarian at her previous institution, so she understood what was required of librarians with instructional design duties. She had previously attended the Distance Library Services conference and had read about "blended librarianship," the concept proposed by Bell and Shank (2007), who state that a blended librarian "combines the traditional skill set of librarianship with the information technologist's hardware/software skills, and the instructional or educational designer's ability to apply technology appropriately in the teaching-learning process" (p. 373). All of this, including

the author's expertise and experience with creating online learning opportunities in an academic library, helped to establish the need and justification for the course.

The course learning outcomes reflect the phases typical of instructional design (Table 1). The major assignments include a literature review of a learning theory, a design project that is scaffolded throughout the class, quizzes, and weekly discussion board postings. Each week, short video lectures created by the instructor are provided, along with readings, additional videos, discussion questions, and other supplemental activities, like formative quizzes and peer review. Weekly lessons cover topics like analyzing learner needs, developing instructional goals and objectives, introductions to various ID models, inclusive instruction online, Universal Design, and learner assessment. The course itself uses Universal Design principles through multiple representations of the materials (visual, audio, text), allowing students to respond in the discussion boards via audio, video, or text, and allowing students to choose topics for the major project.

Learning Outcomes	Assessments
<ul style="list-style-type: none"> • Identify the purpose of instructional design • Compare ID models and choose the most appropriate model for a learning scenario 	<ul style="list-style-type: none"> • Course discussions • Quizzes, final design plan
<ul style="list-style-type: none"> • Analyze learner needs to identify gaps and plan instructional goals • Design effective, brain-based learning activities • Develop formative and summative assessment to determine the effectiveness of instruction 	<ul style="list-style-type: none"> • Needs analysis • Literature review, Storyboard, and final design plan • Storyboard and final design plan
<ul style="list-style-type: none"> • Evaluate educational technology based on ability to meet instructional needs 	<ul style="list-style-type: none"> • Final design plan

Table 1: LOs and Assessments

The major project of the course is split into three components: a needs analysis, a storyboard, and a final design, all to create an instructional module on the topic of the students' choosing. The needs analysis has students develop a plan for how they would better understand learners through data collection and analysis, and then asks them to establish goals and learning objectives for their module. The storyboard asks students to draft an instructional video or animation, and then the instructor and peers provide feedback on this prototype. The last step is the final module design plan, which includes a high-fidelity version of the video students storyboarded, instructional activities, and a formative and summative assessment plan. All the steps in designing and developing the module emulate the real-world process of instructional design to prepare students for the brainstorming, data collecting, planning, and iterating that is part of developing instructional material for libraries, museums, and archives.

Students who complete the Instructional Design course should have an understanding of how to apply evidence-based learning theories, ID models, educational technology, strategies to increase inclusivity and community online, and instructional evaluation and assessment (and the limitations and ethical concerns of methods of assessment, like the privacy violations of learning analytics) to their areas of interest and expertise in LIS. While, as Turner (2016) states, not all of the competencies for Instructional Design from the International Board of Standards, Training, Performance, and Instruction (ibstpi) (Koszalka, Russ-Eft, Reiser, Senior Canela, Hopkins Grabowski, & Wallington, 2013) are necessary for librarians, many of them fit into other competencies, like those of ALA, for information professionals. Below, we detail how the course meets the ibstpi competencies that were highlighted by Turner (2016) as being important for information professionals.

Communicate effectively in visual, oral, and written form: These are not skills unique to instructional design, but within the course, students complete a literature review exploring the empirical literature relevant to a learning theory. They also respond nearly every week in the discussion board, post video introductions, and create a storyboard that is developed into a high-fidelity version of an instructional video.

Identify and describe target population and environmental characteristics; Select and use analysis techniques for determining instructional content: Students complete a plan for a needs analysis, where they describe the audience for the learning module they will create, and they describe the context and situations that have precipitated the opportunity for an instructional intervention. Within the needs analysis, students also develop a plan to better understand the learning needs of the audience. Strategies for reaching audiences with different backgrounds and interests are explored as well.

Analyze the characteristics of existing and emerging technologies and their potential use: Cognitive load and multimedia learning are explored in the course, which allow students to evaluate how instructional technology may help or hinder learning. Additionally, several

modules of the course include exploration of possible tools, like Learning Management Systems, quizzing software, and screencasting tools.

Use an instructional design and development process appropriate for a given project:

After being introduced to various instructional design models, students choose one to use in the planning of their learning module design. While the focus of the course is mostly on an ADDIE approach to instructional design, students may adopt other models and methods appropriate for their specific instructional scenario.

Organize instructional programs and/or products to be designed, developed, and evaluated: A lesson in the course is dedicated to the organization of instruction in online environments. A variety of organizational methods are introduced, like Gagne's Nine Events of Instruction, the Gradual Release Model, and Dale's Cone of Experiences. Students in their learning module plan provide an organizational structure for the module, along with a rationale for the organization.

Design instructional interventions: The learning module plan is a design of the instructional intervention that will meet the instructional needs and learning goals and objectives identified in the needs analysis. While students are not required to completely develop all aspects of the module, they are required to include a detailed plan. They also explore techniques to make online learning more inclusive.

Select or modify existing instructional materials: Within the plan for the learning module, students may identify existing content or modify content either in the activities chosen or the presentation of information. Resources like PRIMO, Merlot, and OER repositories are introduced to students and available to be included in the learning module plan.

Develop specifications that serve as the basis for media production: Students describe what type of media will be used in their learning module, including where the module will be hosted (LMS, LibGuide, etc.). Determining this environment, the audience, and the instructional allows them to choose the type of media that will be required to meet the learning objectives to align the interventions, objectives, and assessment.

Revise instructional and noninstructional solutions based on data: Within the course, both assessment of student learning and evaluation of instructional interventions are examined. Discussions of assessment and evaluation include implications for revision of the content and structure of the instruction.

STUDENT FEEDBACK

Mid-semester feedback indicated overall that students were satisfied with the course, with several students mentioning surprise at the quality of the online learning environment or appreciation of the course thus far. Students in a face-to-face meeting said they were glad to have been "forced" to take an online course that was well-designed since it provided an example for

them for the possibilities for online learning. End-of-term student evaluations indicated high satisfaction with the course, with the overall instruction being rated a 4.89 out of 5. In addition, one author, a student in the course, applied knowledge gained about evidence-based learning theories in her work as a library assistant at a Pittsburgh-area public library. After writing in her monthly report about how she used knowledge of cognitive load theory and encoding to structure a brief “share-out” about a training she went to the previous year at a staff meeting, her manager commented that she appreciated that the author was able to use her work in graduate school to improve job performance.

STUDENT ASSESSMENT

Students were able to use real-world situations in the needs analysis, storyboard, and final module design. Topics range from instructing Doctor of Nurse Practitioner students on how to use online databases to teaching genealogical researchers how to use archival materials. Students are using these assignments to identify authentic applications for instructional design techniques, many of which relate to their current internships or experiential learning in other courses.

Each assignment was evaluated with a rubric, and student performance overall on all assignments indicated high student achievement. For the literature review, the rubric evaluated organization, the comprehensiveness of the sources, the quality of the analysis, and writing style; the average was 91%. The rubric for the needs analysis included a clear description of the need, a description of the audience and clear sampling measure, quality instruments and/or protocols, a solid data analysis plan, and then measurable goals and objectives; the average for this assignment was 95%. The storyboard assignment was graded based on a thorough background of the instructional scenario, clear learning objectives for the storyboard, direct instruction that facilitated learning, and an effective assessment plan; the average grade for this assignment was 96%. For the final module plan, students were graded on justifying the ID model used, providing a background to the instructional scenario; having clear learning objectives for the module; having a developed prototype with multimedia instruction; creating multiple, effective instructional activities; having clear assessments; and creating a quality product. The average grade for the final assignment was 96%.

ANTICIPATED CHANGES

While student feedback and performance indicated overall success, changes to the course will be made. It is clear that anti-racist instruction must be integrated into every course; considering critical instructional design, who is excluded by the ID approach, and what assumptions are made about learners, their abilities, and their background must be considered in both the design of the course and the way in which ID is presented in the course content. While

issues of diversity and inclusion were addressed in the first iteration, the role of white supremacy in instructional design was not explicitly addressed or challenged. Future iterations of the course will integrate these critiques more fully. With the impacts of the digital divide and online education very apparent during COVID-19, the course will also address how instructional designers can create effective online instruction while keeping issues of equity and access in mind.

THE FUTURE OF ID IN LIS

MLIS programs may not be able to make Instructional Design a core course, but offering it as an elective, either through a partnership with the School of Education or through the development of a course offered within the program, will allow those students who anticipate that they will be engaged in the development of training and instruction, particularly online, to learn the necessary instructional designer competencies highlighted by Turner (2016). For programs that have a course on instruction, while a section within the course on instructional design is useful, it is unlikely to cover all the ID competencies, and therefore may not prepare students for library careers that strongly emphasize instructional design.

Instructional design will continue to be a major element of many librarians' job duties, especially in a post-COVID world, and we must adequately prepare students for the expectations of designing creative and engaging instruction for interconnected online and digital environments. Within libraries, we will see increased use of augmented reality, virtual reality, and other new tools, and librarians need to understand the process of how to plan, design, execute, and assess learning that integrates new technologies and reaches user groups in new ways. Through an instructional design course in our MLIS programs, we can ensure that our graduates can respond to these developments in agile but strategic ways.

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Navigating the Cultural Landscape: A Strategy for Enhancing Self-Awareness in Information Professionals

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ABSTRACT

Preparing culturally competent information professionals requires experiential approaches that would challenge them to navigate their own cultural landscape through introspective lenses. However, for information professionals, the tricky business of investigating oneself remains largely unacknowledged and unstudied. This study demonstrates how information professionals discover and come to understand the meaning of race, privilege, and intersectionality between them by navigating their own cultural identity. A qualitative content analysis of 33 personal identity exploration narratives reveals the importance of self-awareness in cultivating a culturally responsive mindset. This study addresses an approach to LIS education that calls for intentional efforts in cultivating self-reflexive information professionals for bringing sustainable change in a culturally diverse society.

ALISE RESEARCH TAXONOMY TOPICS AND AUTHOR KEYWORDS

social justice; pedagogy; community engagement; specific populations; information literacy

INTRODUCTION

Cultural competence is the ability of individuals to use academic, experiential, and interpersonal skills to increase their understanding and appreciation of cultural differences and similarities within, among, and between groups (Sue & Sue, 2008). Building cultural competence has received considerable attention in recent academic discourse that emphasizes the benefits of incorporating cultural competence into LIS curriculum (Andrade & Rivera, 2011; Blackburn, 2015; Cooke, 2017; Jaeger & Franklin, 2007; Rivera, 2013; Jaeger et al., 2011; Mehra, Olson Hope, & Ahmad, 2011; Mestre, 2010; Montague, 2013). Furthermore, developing self-awareness through critical self-reflection is considered a crucial component in building cultural competence (Cooke & Jacob, 2018; Overall, 2009). However, the LIS scholarship remains limited on practical teaching assignments that incorporate experiential and introspective approaches (Cooke & Jacob, 2018; Villa-Nicholas, 2019). These serve to enhance LIS students' preparation and motivation for practicing culturally responsive services in global information environments and diverse workplace settings.

This article presents one such practical strategy, referred to as the Identity Exploration Assignment from two cultural competence courses taught during the Summer 2019 and 2020 semesters. The primary objective of this learning activity was to raise critical awareness on race, identity, privilege, oppression, and intersectionality in students by engaging them in critical introspection of their cultural identities. This study demonstrates that asking students to navigate their own cultural landscape through introspective lenses can be helpful in developing culturally competent information professionals who would thrive in a culturally diverse society. The overall goal of the study was to understand if asking students to navigate their own cultural identity helped them become more culturally sensitive towards people of other cultures. More specifically, the study addressed the following research questions:

- How do information professionals discover and come to understand the meaning of race, privilege, and intersectionality between them?
- What are the implications of critical self-reflection in cultivating cultural competence in information professionals?

Findings demonstrate the effectiveness of the Identity Exploration assignment in engaging students in a process of self-exploration, discovery, and investment in cultivating a culturally responsive mindset (Bender, Negi, & Fowler, 2010; Negi, et al., 2010). With a focus on specific strategies for facilitating student self-awareness, this article discusses the building blocks of the conceptual framework utilized in navigating cultural identity, components of the Identity Exploration Assignment, and concludes with findings based on students' learning reflections.

CONCEPTUAL FRAMEWORK

The Importance of Self-Awareness in Building Cultural Competency

A culturally competent information professional introspects his or her own assumptions about human behavior, values, biases, preconceived notions, personal blind spots; attempts to understand the worldview of culturally diverse populations; and utilizes appropriate, relevant, and sensitive strategies and skills in working with culturally diverse populations (Sue & Sue, 2008). In a similar vein, Overall (2009) posits that cultural competence consists of three segments: self-awareness, education, and interaction. The first requires LIS students and professionals to take stock of their own identity; "knowledge of the culture of self is at the heart of understanding others and the surrounding world" (p. 192). Doing so allows individuals to look at the unconscious ways that culture has impacted their lives and enables them to have a greater appreciation of different cultures. An abstract cultural appreciation is not the only thing gained. An understanding of ones' identity "informs services to constituents...collection development, cataloging practices, program delivery...library assessment" (ACRL, 2012) and even colors workplace relationships.

Social work educators have developed a number of teaching models specifically to build cultural self-awareness. Sakina Mama (2001) stresses promoting diversity as the norm, in addition to recognition and acceptance of ones' own culture. The Newcastle Model works to incorporate personal experience and history into practice through experiential learning (Negi et al., 2010, p. 224). And the Self and Other Awareness Project (SOAP) focuses on the variety teaching exercises to be used, each centered around self-exploration (Colvin-Burque, Zugazaga,

& Davis-Maye, 2007). Pedagogical approaches to self-awareness run the gamut as well: class discussions, “diversity audits”, family histories, group activities, guest speakers, journaling, reflections, and self-evaluations are just some of the methods used (Cooke & Jacobs, 2018; Desai, Dodor, & Carroll, 2020; Negi et al., 2010; Sakina Mama, 2001; Tervalon & Murray-García, 1998). Thus, reflecting on ones’ own beliefs and prejudices is a necessary precursor to empathizing and understanding those of different backgrounds, an imperative skill for any information professional.

Navigating Cultural Identity

Cultural identity is the extent to which an individual perceives and understands the self in terms of the common attributes, characteristics, or values shared with those who belong to their native culture (Kosmitzki, 1996; Sussman, 2000). As such, cultural identity can be considered a specific type of collective identity that psychologically binds individuals together who belong to the same social group, while simultaneously differentiating them from members of other social groups (Tajfel, 1981). Experiencing cultural differences tends to challenge existing beliefs based on internalization of native cultural norms and serves as a catalyst for self-reflection on cultural identity. Therefore, cultural identity is an important factor to consider when predicting intercultural effectiveness in any diverse workplace settings. There are several layers to dissect that can make up cultural identity. However, in keeping with the research objectives, this study focuses on three aspects: race, privilege, and intersectionality.

In the United States, *race* is the trait that influences most of the aspects of one’s cultural identity. Even though race remains at the epicenter of many discrimination and diversity conversations, the LIS scholarship demonstrates hesitation in using the term “race” in its professional discourse (Pawley, 2006). As a result, there remains a tendency to avoid “uncomfortable but critical conversations about race/ethnicity” (VanScoy & Bright, 2018; p. 295) in the information profession. Furthermore, the failure to name race minimizes its significance and results in insignificant progress. The LIS field also lacks an adequate framework for increasing diversity in libraries. Honma (2005) recommends that LIS education programs adapt the social justice lens used by ethnic studies fields “to successfully theorize oppression and bridge the gap between [themselves] and communities of color” (p. 18). As race plays a critical role in determining advantages/disadvantages of certain groups over others, the next step would be to understand and analyze the concept of privilege in order to navigate cultural identity.

As *privilege* is a multidimensional concept, this article discusses it from the perspective of societal and workplace privileges (Atewologun & Sealy, 2014). This perspective suggests that certain groups have more social benefits, power, advantages, and opportunities than other groups simply due to certain special and unearned characteristics they possess (e.g., race, gender, sexual orientation, socio-economic status). Such privileges generally remain unacknowledged (McIntosh, 1989) by the privileged groups and continue to perpetuate. White privilege, the most widely theorized type of privilege, is the notion that whites derive advantages simply by virtue of their skin color (Black & Stone, 2005; Leonardo, 2004; Lipsitz, 2008). This applies to practically every area of life, from education to healthcare (p. 6), and can blind otherwise sympathetic whites to the pervasive inequalities existing in the world around them. Given the overwhelmingly white makeup of the LIS profession, this is a major hurdle to overcome and

serves as a deterrent in increasing inclusivity in the information profession. An analytical framework to understand this juxtaposition approach is intersectionality.

Despite an increased analysis of *intersectionality* in other disciplines, the LIS scholarship remains quite limited in developing an understanding of intersectionality and its implications for the information profession (VanScoy & Bright, 2019; Villa-Nicholas, 2018). As a result, the concept of intersectionality remains vague at its best (Shaffner, Mills, & Mills, 2019). Crenshaw (1991) popularized the term intersectionality as that which concerns the processes or relations of marginalization and privilege and their connection to socially constructed categories of identity, such as gender, race or class. The idea behind intersectionality holds that forms of discrimination are interrelated variables and cannot be addressed individually. When panels focus on singular issues, for example gender in library technology, it does a disservice to those who have other characteristics wrapped up in their identity (race, sexual orientation, etc.) that are ignored because they are seen as niche (Walker, 2013). Taking all variables into account is necessary to avoid continued marginalization of these groups who possess different characteristics and attributes. Jaeger et al (2011) call for the broadening of diversity needs to include all those who are *informationally* disadvantaged and experience library access issues due to age, language, or sexual orientation along with race, gender, and socio-economic status. Thus, a deeper understanding of intersectionality would be helpful for increasing inclusivity in libraries, since “in many academic institutions...most fields still view diversity in purely racial terms” (Jaeger et al., p. 170). Therefore, it is of utmost importance to understand, confront, and address the issues of intersectionality and its implications for increasing inclusivity in information organizations.

In keeping with the framework discussed in the preceding paragraphs, the Identity Exploration assignment challenged students to engage in a process of self-exploration and asked them to navigate their own cultural identities through self-reflexive lenses.

METHODS AND MATERIALS

This study presents a qualitative content analysis of 33 personal identity exploration papers from two online Cultural Competence for Information Professionals courses taught during the Summer 2019 and 2020 semesters. This assignment challenged students to navigate their cultural identities through a set of discussion prompts. With the exception of two male students, the course participants were all female and belonged to different races/ethnicities, including White ($n = 25$), Black ($n = 2$), Hispanic ($n = 2$), Asian ($n = 2$), and Multiracial ($n = 2$). Furthermore, the students were primarily adult learners who were geographically dispersed throughout the U.S.

The primary objective of the identity exploration assignment was to raise awareness of identity, privilege, oppression, and intersectionality issues through a critical social justice framework (Sensoy & DiAngelo, 2012). Students were required to reflect on five of the ten types of identities: race, ethnicity, gender, gender identity, religion, ability, language, nationality, sexual orientation and class. Furthermore, the students were asked to articulate their learning experiences from this assignment and whether this self-identity exploration exercise helped them gain better insights into their cultural identity. Finally, the students were asked how this cultural awareness made them more sensitive towards people of other cultures (if applicable). A

qualitative content analysis approach was utilized to explore the themes that emerged from the students' discussions and the lessons that they had learned, taken from their identity exploration papers.

FINDINGS

The analysis of the personal identity narrative papers reveal how the students' understanding of identity, race, privilege, oppression and intersectionality have evolved through an exploration of their individual cultural identity narratives. The discussions on the findings are arranged under the following three major themes: understanding of race and privilege, understanding of intersectionality, and lessons learned.

Understanding of Race and Privilege

The students' discussions revealed that a number of factors contributed to the development of their racial identities. Students of color began to understand the meaning of "whiteness" from a very early stage in their lives, whether they were born in the U.S. or from immigrant families. Due to their cultural backgrounds, they experienced racial discrimination, oppression, microaggressions and stereotyping as a part of their development. As a result, they experienced constant pressures and struggles to conform and assimilate in school, the workplace, and the broader society. In contrast, a majority of the White students did not have any personal experiences of racial discrimination or oppression.

The findings revealed that a majority of students ($n = 29$) were aware of the pros and cons of their race, ethnicity and background and the implications of those qualities for their professional careers. However, they had not engaged in any analysis of the privileges derived from their race, ethnicity, schooling or family background prior to working on this assignment. In particular, many White students felt that their understanding about their privileges and related benefits remained at surface level. While a small number of White students ($n = 4$) demonstrated a blissful ignorance of their privileges, some chose to downplay their privileges or feigned ignorance at times.

It was also interesting to note that almost every White student appeared to be discovering the meaning of privilege through the lens of "ableism" (i.e., their lives have not been without struggles, and they have worked hard to accomplish everything). At the same time, some of them also acknowledged that they understood that their lives had not been made more difficult due to their skin color. A few of them also reflected that it is impossible for them to imagine the struggles of people of color. Moreover, they also acknowledged that they are still grappling with the disparities in social and economic privilege.

A few White students found it challenging to comprehend and recognize the benefits of their privileges due to the homogenous cultural bubble in which they had grown up. Their White privilege kept them insulated from any racial discrimination, inequities and oppression. As a result, their exposure to multicultural environments and multicultural education remained limited until they began higher education. Furthermore, their reflections also highlighted their feelings of White guilt, their struggles with implicit bias, their discomfort towards race conversations, and

their views on how their mistaken beliefs in equality had led to the development of colorblind ideologies.

Overall, the findings indicated that race and privilege are two sides of the same coin and play a critical role in determining an individual's social power, oppression and opportunities throughout their careers and lives.

Understanding of Intersectionality

The students found learning about intersectionality and its implications to be one of the most profound and enlightening experiences of the course. They made efforts to navigate through their own cultural identities while looking through the lenses of race, gender, religion, ethnicity, language, and more, and discovered an intersectionality between them. Their discussions revealed three major themes: *evolving worldviews, feelings of inadequacy and battling identity crisis*.

While “evolving worldviews” was the consistent intersectional theme among the White students, students of color expressed “feelings of inadequacy,” and “battling identity crisis” as part of their cultural identities as they discovered the meaning of race, privilege and their intersectionality, and the implications of these for their careers and lives.

Lessons Learned

As developing cultural competence is a lifelong journey, students were asked to reflect on three action steps to further develop their cultural competence skills in their identity exploration narratives. Although their discussions highlighted a number of approaches toward developing their cultural competence skills, they could be organized into following four subthemes: *the role of self-reflection in developing cultural competence, continuing education and professional development, practicing cultural humility, and leveraging advocacy and social justice tool-kit*.

Overall, the students' appeared to be more empathetic and sensitive towards people of other cultures as a result of their self-introspection. The findings indicated that providing opportunities for self-reflection and introspection in a safe and non-threatening forum provided several benefits to the participants. First, this reflective assignment challenged the students to discover the meaning of race, privilege, oppression and intersectionality among themselves through a self-introspective lens. Second, this self-reflective exercise helped them understand the relevance of cultural competence and its implications for the LIS profession. Finally, and most importantly, the students' overall comments indicated how such introspection helped increase sensitivity towards other cultures and fostered a sense of cultural humility.

DISCUSSION AND IMPLICATIONS

The overall goal of the present study was to understand if asking students to navigate through their own cultural identity helped them become more culturally sensitive towards people of other cultures. In particular, this study attempted to understand how students discover and come to understand the meaning of race, privilege, and intersectionality between them. Findings

reveal how students' understanding of identity, privilege, oppression, and intersectionality evolved by self-exploring their own cultural identity narratives. The findings also indicate that students who examine their own cultural identity will likely act with more cultural sensitivity towards people of other cultures.

This study indicated that a majority of students were aware of the pros and cons of their privileges and the implications of these privileges for their careers and lives. However, they did not engage in an in-depth analysis of their privileges. The majority of the White students primarily grew up in a homogenous cultural bubble. While their upbringing and White privilege shielded them from any racial inequities and oppression, it also posed challenges in cultural intermingling and served as barrier in their exposure to multicultural environments. In contrast, students of color personally experienced marginalization, discrimination and stereotyping throughout their careers and lives. As a result, the students' worldviews differed due to their varying contexts, particularly when they attempted to understand the meaning of race, privilege, and intersectionality. Their discussions revealed the need to redress power imbalances in libraries and develop mutually beneficial partnerships with underserved communities on behalf of individuals and defined populations. Their discussions also emphasized the importance of continuing education and professional development through reading, training programs, seminars and webinars. Additionally, their reflections highlighted their intentions, plans and approaches to work with diverse communities and people with different cultural backgrounds.

Given the small sample size and qualitative nature of the study, the findings cannot be generalized to a broader population. However, the overall goal was to create awareness about the benefits of using self-reflective learning activities in teaching cultural competence courses. The findings clearly demonstrated the benefits gained from a social justice-based approach, including improving critical self-awareness, appreciating the advantages of continuing critical self-reflection in practicing cultural humility, and incorporating an antiracist component in teaching multicultural education courses. This study demonstrates how a learning experience involving personal identity exploration narratives can be utilized to foster cultural humility (Chang, Simon & Dong, 2012; Hodge, 2019; Lund & Lee, 2015) in LIS programs for future information professionals.

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Research-Practice Partnerships: Reaching Underserved Students in the School Library

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ABSTRACT

The media coordinators in one school district undertook a year-long action research project to increase diversity of materials in their library collections and the use of these diverse materials. This study will document and describe their efforts within a research-practice partnership, while also providing an analysis of the change in practice over time from pre- to post-intervention. Content analysis will be used to evaluate purchase orders made prior to the interventions. Interventions to increase diverse collections and programming will be instituted by the lead media specialist. During the action research project, the media coordinators used diversity tools to analyze their collections. Content analysis will again be used to evaluate purchase orders made after the interventions were implemented. Interviews of school librarians and the lead media specialist will provide thick description of change in materials purchasing and use due to professional development interventions.

ALISE RESEARCH TAXONOMY TOPICS

school libraries; collection development; continuing education; education programs/schools

AUTHOR KEYWORDS

collection development; continuing education; school libraries

INTRODUCTION

This contribution explores how LIS education in a research-practice partnership between a university MLS program and one local school district's libraries transforms LIS education in an interconnected world. By growing diversity in school library collections through professional development, this district has recently followed trends toward provision and use of materials to reach underserved students in the school library. In this small city with a thriving university, the LIS research-practice worlds are interconnected as evidenced by a university/school district partnership to create a positive impact on our students' access to diverse library collections (personal communication, February 19, 2020). An informal survey of school librarians in this district, referred to as "Media Coordinators", indicates that

approximately 85% had completed or were currently completing their MLS or certificate at the local university. Through professional development and panel discussion by university faculty for district media coordinators, this paper engages with the notion of change and transformation of LIS education through continuing education.

Penuel and Gallagher (2017) present a practical guide for researchers to report out on school district administrators efforts to develop action research for evidence-based programs, forming long-term collaborations to investigate problems of practice and solutions for improving educational systems. These partnerships are ways to bring evidence to bear on decision making for creating usable, effective innovations. The key characteristics of research-practice partnerships include a focus on problems of practice, long-term commitment, and a mutualistic relationship. For the public-school administrator, this is an opportunity to lead professional development in collaboration with university faculty and build librarians' capacity to work together for change. For the university faculty, the opportunity lies in field study of curricular innovations and scaling educational change efforts, in this case serving in an advisory role, developing a model, analyzing book purchases, and reporting out on the product.

Kachel (2018) calls school librarians to action as equity warriors in their library programs, even for those students who presumably have equal opportunities to use the library. School librarians, who work with all students and teachers in the school, can lead changes to ameliorate the effects of poverty, prejudice, and exclusion from learning opportunities, whether deliberate or unintended, to improve parity, awareness, and collaboration (Kachel, 2018).

Students need library collections which offer mirrors to reflect on their own self-identity, windows to view the perspective of others, and sliding glass doors to step out into unfamiliar worlds (Bishop, 1990). Attention to cultural markers for race, ethnicity, culture, religion, gender, sexual orientation, family socioeconomic status, housing status, geographic setting/location, differentiated abilities, and language are important factors when selecting books to purchase for the school library collection (McNair, 2016). In doing so, librarians create a space for agency, growing from the student's sense of real and present value by collecting and curating wide-ranging materials to enable access to information for all (Altobelli, 2017).

Yet how do school librarians who are practicing in the field select, purchase, and curate materials for diverse learners, especially in conservative settings where push-back from parents, community, administrators, and even other teachers may be perceived as threatening? Who is setting the example for providing meaningful reading materials for marginalized children when book budgets are tight and the curricular and personal learning needs are many? How do school librarians who may have been in the field of education for many years react to efforts to diversify their collections?

To investigate, I propose the following research questions.

RQ1: How can the materials purchased by media coordinators who have not received training to reach underserved students be described in terms of race, ethnicity, culture, religion, gender, sexual orientation, family socioeconomic status, housing status, geographic setting/location, differentiated abilities, and language?

RQ2: How can the professional development of school media coordinators for reaching underserved students be described?

RQ3: How do the materials purchased by media coordinators after participating an intervention of professional development to reach underserved students differ from purchases made before the intervention in terms of race, ethnicity, culture, religion, gender, sexual orientation, family socioeconomic status, housing status, geographic setting/location, differentiated abilities, and language?

METHODOLOGY

Population

The population for this study will consist of three elementary school (grades PreK-5, ages 4-10 years) media coordinators, three middle school (grades 6-8, ages 11-14 years) media coordinators, three high school (grades 9-12, ages 15-18 years) media coordinators selected at random by the lead media specialist, and the district Lead Media Specialist ($N = 10$). These full-time, certified professionals practice in school libraries in one district in the southeastern United States.

Interventions

The interventions took place according to a framework provided by the district Lead Media Specialist from December 2019 to September 2020 (see Figure 1) and included professional development, readings, a guest panel, diversity tools and resources, a Canvas course, funds to purchase diverse books, discussions for purchasing and using diverse materials in school library activities, a community analysis, and a collection development plan. The need for these interventions was determined after examining the themes of media professional development offered for the five years prior to SY 2019-2020 and noting that continuing training on diversity, equity, and inclusion had not been offered (M. Hill, personal communication, July 23, 2020). The activities were selected for their relevance to the philosophy of librarianship to serve all patrons and to provide access and programming to meet the needs of all students (ALA, 2020) and to have a foundation to build upon for future trainings.

In December 2019, the district media coordinators attended a professional development meeting with a presentation on diverse award-winning books by the head of the university Teaching Resources Center. Additionally, the Lead Media Coordinator provided materials for the media coordinators to review in preparation for the panel discussion and other activities at the district January 2020 Media Professional Development meeting. An additional hour of CEU time was built into the professional development in order to provide time ahead of the meeting to read, review, and thoughtfully consider the information provided. The district media coordinators were asked to familiarize themselves with the professional development panelists by reviewing their biographies which were provided within the presentation, "Reaching Underserved Students in the School Library" in Canvas. Next, two readings were assigned to the district media coordinators (Gorski and Swalwell, 2015; Howard, Overstreet, and Ticknor, 2018). The media coordinators were asked to thoughtfully read the two articles, jot down thoughts and notes, create questions for the

panelists, and take time to think about the expertise of the panelists, the content of the articles, and the title, “Reaching Underserved Students in the School Library,” and purpose of the panel discussion.

Purpose: As librarians, we know that providing a safe, welcoming space for every single patron is a vital function in our school and in our students' lives. In this conversation, our panel of experts will share their knowledge and expertise about the specific needs of underserved populations and how we can help meet those needs in our school libraries. (M. Hill, personal communication, February 28, 2020).

The January 2020 professional development session included a panel discussion and breakout sessions in the morning. In the afternoon, a representative from Perma Bound led discussions on curated diverse book lists and the district lead media coordinator presented on the Diverse BookFinder Collection Analysis Tool (n.d.) and the Guide for Selecting Anti-Bias Children’s Books (Derman-Sparks, 2020) along with other diverse book selection and evaluation tools and resources.

The Diverse BookFinder Collection Analysis Tool is a free, online tool designed to help children’s and school librarians diversify the picture book collection. To use, the librarian uploads a file containing ISBNs and titles for the picture book collection (including nonfiction). The Diverse BookFinder then cross-references this file with the Diverse BookFinder collection of children's picture books featuring black and indigenous people and people of color to identify multicultural picture books, then provides a report outlining which racial/cultural groups are represented and themes that predominate for each group. This approach reveals the strengths and gaps in the racial/cultural representation within the collection. The librarian can then use the Diverse BookFinder Search Tool to identify books to add to the collection to enrich picture book holdings.

From January to March 2020 the district media coordinators were asked to complete their Diverse BookFinder analysis and received \$200 to purchase diverse books from a list curated by Perma Bound representatives. For the May 2020 professional development, the media coordinators were introduced to a pilot diversity tool being developed by Follett (2018) to assess the diversity of the library collection using Titlewave. The media coordinators upload MARC records from Titlewave, download the analysis, then explore their collections by curriculum tag subjects and themes, such as race relations, LGBTQ, Hispanic American, homelessness, foster homes, or disabilities and disabled persons. Media coordinators also complete a general TitleWave analysis. Additionally, professional development for August 2020 included media coordinators conducting a community analysis using demographics and student/staff reading interest surveys. In September 2020, the media coordinators brought all analyses to the media professional development meeting to use as a basis for their collection development plans.

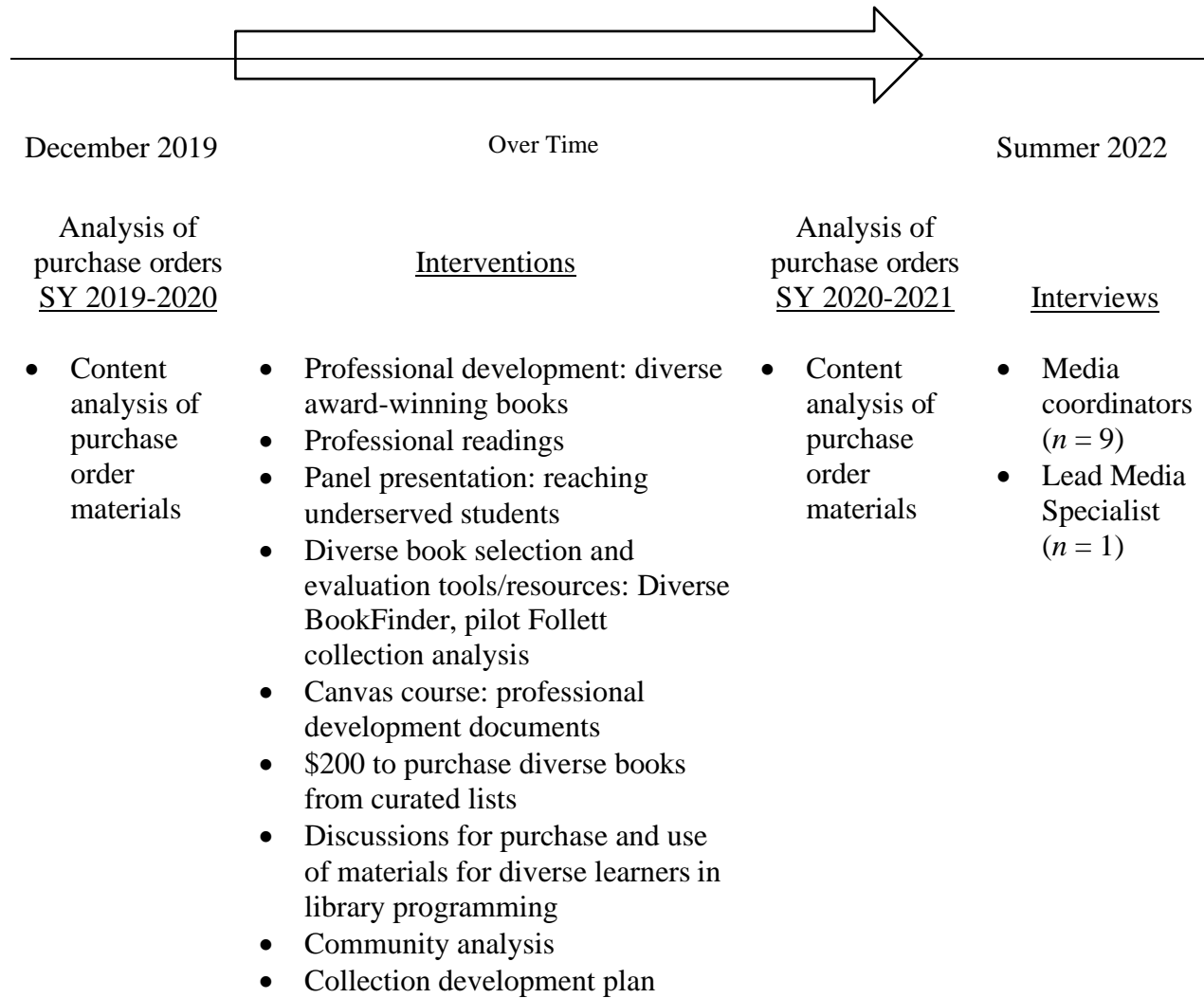


Figure 1. Framework

Data Collection

Copies of purchase orders placed during the year prior to the interventions for nine randomly selected schools (three elementary, three middle, three high schools) were provided to the researcher by the district lead media coordinator for content analysis at the close of the school year. Purchase orders for the year following the interventions for the same schools will also be provided at the close of the following school year. Using a small criterion sample of nine school media coordinators and one lead media specialist, qualitative data will be collected through interviews. The same three elementary, three middle school, and three high school media coordinators will be interviewed using a semi-structured format of questions developed by the researcher based on a blueprint. The lead media coordinator will also be interviewed using similar questions adapted to the lens of a district administrator. In total, ten participants representing three sites and one district will be

interviewed to explore their lived experiences. Interviews will be voice recorded and the digital files sent out for transcription.

Data Analysis

A content analysis by title of purchase orders will be completed before and after intervention. First, to describe diversity present in school library collections prior to intervention, the researcher will analyze purchase orders for SY 2019-2020 for the selected schools with the assistance of graduate assistant(s) from the local university. After the interventions are completed, the researcher will analyze purchase orders for SY 2020-2021 using the same content analysis as for the pre-intervention analysis.

Using a detailed and systematic examination of the contents of materials purchase orders before and after interventions, the researcher will identify patterns, themes and biases (Leedy and Ormrod, 2016). Content analysis will be used to look for materials characteristics by race, ethnicity, culture, religion, gender, sexual orientation of main characters, family socioeconomic status, housing status, differentiated abilities, geographic setting/location. Materials to analyze will include purchase orders of picture books, fiction, graphic novels, biography, and non-fiction by varied formats, such as print, ebooks, and other multimedia. The researcher has developed a spreadsheet to record materials characteristics. Each tab on the sheet will represent a school. Each line on the sheet will represent a book title, or case. Each column will represent a diversity characteristic. Titles will be analyzed using MARC record subject lines and Follet curriculum tags for subjects and themes. Picture books will be analyzed using the Diverse BookFinder Collection Analysis Tool. Book reviews of individual titles will also provide evidence of the diversity level of materials. As needed, copies of the books may also be accessed in the university Teacher Resource Center or school library for further review. A general analysis will look for themes, patterns, and gaps, and a diversity score on a scale of 1 to 5 will be calculated per case. Each case will be scored for diversity characteristics using a rubric developed by the researcher, then assigned an overall score.

In addition to content analysis, the researcher will analyze the interview transcriptions to determine whether/how the media coordinators changed their purchase and use of materials for diverse learners over time from pre-intervention to post intervention, and intent for change in future purchasing. The researcher will also analyze the interview transcription for the lead media specialist to determine changes she observed in the practice of the district media coordinators for purchasing, using, and discussing materials for diverse learners. The interview transcriptions will be examined for perceptions and beliefs about purchasing behaviors in the phenomenological tradition to explore the lived experiences of participants to discover and describe the strategies they enacted in practice as they engaged in book purchasing and use to reach underserved students in the school library (Hayes and Singh, 2012; McMillan and Schumacher, 2010; Moustakas, 1994). The raw interview transcripts will be generalized by recording significant statements on a matrix then evaluated to identify emerging codes to investigate the units of meaning for emergent themes through the process of horizontalization (Cresswell and Poth, 2014). Bracketing, member checking, and peer review of assigned codes and themes will be used to establish confirmability, authenticity, and trustworthiness. This analysis will provide for thick description (Geertz, 1973) of change in materials purchasing and use as a result of professional development interventions.

CONCLUSION

Research-practice partnerships open the opportunity to document action research projects using scholarly study design and reporting. In this small field study, the researcher will benefit from observation of the practices of media coordinators in the authentic school setting which will inform practice in the preparation of school librarians, while the practitioners will benefit from empirical data analysis and documentation of evidence-based practice. In this way, the partnership hopes to move forward this research-practice partnership to reach underserved students in the school library.

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Alzheimer's, Dementia, and LIS: Educating for Service to the Forgotten Patrons

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ABSTRACT

LIS education has not prepared students to serve people living with Alzheimer's and related dementias, a marginalized population of nearly 50 million worldwide. Healthy lifestyle choices such as mental and social stimulation are known to promote brain health and resilience, and these non-pharmacological interventions against dementia are already mission-critical within library services. Learn how LIS education for this underserved community can improve in key areas of practice – customer service, information services, collection development, and adult programming – and can prepare library professionals to meet the needs of those living with dementia and their caregivers.

ALISE RESEARCH TAXONOMY TOPICS

specific populations; information needs; reference transactions; collections development; community engagement; education of information professionals

AUTHOR KEYWORDS

Alzheimer's dementia; caregiver support; health informatics; information services; library programming

LIBRARIES AND DEMENTIA SERVICES

The number of people living with Alzheimer's Disease and other related dementias has reached 50 million worldwide, with growth projected at 82 million by 2030 and 152 million in 2050 (World Health Organization, 2019). The number of people with AD in the United States alone – 5.8 million – may also triple by 2050, as the population ages; cognitive impairment also

deeply impacts tens of millions of unpaid dementia caregivers (Alzheimer's Association, 2019, pp. 17-23). The *World Alzheimer's Report* termed the syndrome an epidemic in 2010 and urged the global community make AD a global priority (Alzheimer's Disease International, 2010).

LIS education and training has not prepared professionals to meet this global increase in dementia cases. Librarians in the United States and elsewhere already serve adults with dementia and their caregivers, and have been doing so for decades; some public libraries even have dedicated Dementia Librarian roles, or staff trained as dementia-friendly. However, despite the 2007 publication of the IFLA *Guidelines for Library Services to Persons with Dementia*, librarianship at large has lagged in both research, and in best practices for service and programming. Similarly, museums and other information and cultural heritage institutions have begun some dementia programming, without establishing any complete professional standards of service. The textbooks and courses in LIS education briefly consider the needs of older adults, but have not offered a comprehensive approach to those living with dementia (see, for instance, RUSA, 2017 on reference services; Johnson, 2014 on collection development; Bennett-Kapusniak, 2018, and Roberts, 2018, on adult programming). This is a failure in our education for meeting growing diversity of needs in our communities, and for our professional imperative to serve the public good.

Librarians, however, can positively impact this marginalized community. Current medical research has no reliable cure for AD despite some 50,000 research papers each year, four dedicated professional journals, and several major international conferences. However, some strong recent medical conclusions converge upon *lifestyle changes* which can in many cases improve the ability of individuals to resist or slow the progress of Alzheimer's and related dementias (Alzheimer's Disease International, 2018; Devi, 2017; Friel & Frautschy, 2017; Lewis & Trempe, 2017). Preventative non-pharmacological therapies currently include:

Healthy lifestyle – heart-healthy levels of diet and exercise;

Mental stimulation – brain training, reading and solving puzzles, new cognitive experiences, and lifelong learning of new skills;

Social stimulation – maintaining social contacts and regularly having the opportunity to make new ones.

Mental stimulation through lifelong learning and interaction with physical materials and exhibits, and social stimulation through adult programming, are already mission-central practices of libraries, museums, and other cultural heritage institutions. So in the words of Mary Beth Riedner (2015), librarians and information professionals can be “an essential part of the dementia care team,” and many areas of our professional practice can positively and concretely impact those living with dementia, given solid professional guidance and education.

Specifically, LIS education can prepare our students for serving this vulnerable community in four central areas of library practice:

- Customer service and communication for those living with dementia,
- Information resources to best meet reference needs, both within standard reference training, and as a specific subfield within health informatics,
- Collection development for ongoing mental and social stimulation of those experiencing cognitive decline, and
- Library programming for the dementia community, covering all three types of therapeutic benefit.

In each of these four areas, current textbooks and courses provide a minimal foundation, but must be expanded in specific ways to meet the diverse needs of those living with dementia and their caregivers. This paper will offer concrete guidance for LIS instructors in several of these areas of library practice and education (see also Dickey, 2020).

LIBRARY CUSTOMER SERVICE TO PERSONS LIVING WITH DEMENTIA:

Library practitioners already champion the best principles of service, and our textbooks do extend to different demographic targets in the user base. The ALA's Reference and User Services Association (RUSA), and IFLA both have offered brief standards and guidelines for serving older adults; IFLA published a very brief but important handbook in 2007. LIS literature about serving older adults, supplemented by medical and psychological literature, allows us to derive principles and recommendations for communication and customer service to patrons throughout the progress of Alzheimer's and related dementias. Many persons living with dementia, unsurprisingly, need more support and assistance in aspects of face-to-face communication. Many need more "processing time" during everyday communication (Morley, 2018). Cognitive stimulation, whether part of a prescribed therapy or a "multifocal approach" including lifestyle changes, can thus become a consistent help for the cognitively impaired (Morley, Farr, & Nguyen, 2018).

Medical and psychological research agrees on several common communication problems associated with dementia (AA, 2019; Manteau-Rao, 2016, pp. 126-28; Mayo Clinic, 2020; National Institutes of Health, n.d.). Any of these symptoms may characterize face-to-face interactions with persons with dementia, even in the early stages, as part of the most immediate and superficial changes in linguistic and processing capacity.

- **Difficulty finding the right words** is the most common, including "...naming, and verbal description difficulties, due to semantic memory impairment." (Bourgeois & Hickey, 2009, p. 55).

Each of the other symptoms may be different manifestations of the same basic difficulty, with different coping tactics and different results.

- **Describing familiar objects rather than calling them by name** can be a conversational gambit to get around needing to produce the correct word (Manteau-Rao, 2016, p. 127);
- **Using familiar words repeatedly** can be a reaction to not being able to find more appropriate words that would complete a sentence;
- **Easily losing a train of thought** can include mixing unrelated ideas or phrases together;
- **Reverting to speaking a native language** may even occur, since bilingual individuals may have stronger access to an earlier language (Baker & Seifert, 2001);
- In many cases, a person living with dementia will retain their social graces, so the use of simple pleasantries or **speaking less often** in general, may mask further deficiencies (Bourgeois & Hickey, 2009);
- **Relying on gestures more than speaking:** Since up to 90% of human communication is non-verbal, both the person living with dementia and those communicating with them may benefit from pointing or other physical gestures (Mace & Rabins, 2011, pp. 66-67).

Whether these patterns are seen as "problems" and challenges, or more sympathetically interpreted as just a difference in conversational pattern, practitioners must be aware of them.

The ten points found in the IFLA *Guidelines* (2007, p. 8), supplemented by my interdisciplinary review of the pertinent medical and psychological literature, serve as a basic framework for best communication practices (Dickey, 2020, pp. 42-51). Among these key points are elements of current library public service practice (things **library practitioners should be doing anyway, and that we should be teaching them**), but ones that are even more important for effective and positive work with people with dementia. Many of these tips directly respond to the basic challenges from cognitive decline in short-term memory, situational focus, and vocabulary, with potential behavioral issues. The tips include: Make eye contact; Get the person's attention before speaking; Speak clearly and slowly; Pay attention to body language; Use simple language and repetition, to avoid confusion; Use simple yes or no questions, and allow them time to answer; Include everyday topics in your conversation.

Professional information services lie at the center of LIS ethics, including the very current topic of affording equal access to all. Both medical science and LIS have become more user centered and proactive in shaping our understanding of information needs (Johnson and Case (2013, pp. 40-43), especially when the basic LIS studies are supplemented with information from the fields of psychology, medical informatics, and specific dementia literature. Health information has long been understood as the largest information need among older adults; the importance of health information becomes even more acute for the older cohorts (Asla, Williamson, & Mills, 2006), and serious diagnoses intensify one's information needs. Mental processing speed has declined for many older people, with or without a diagnosis of MCI or dementia, and information providers also need to keep *affective* elements of the interactions in mind – engagement with the information instead of mere compliance, support for positive belief systems, and privacy concerns.

For dementia, those in the early stages might be anxious, and seeking more information about the future. There even – interestingly – are those experiencing a potential or actual Alzheimer's diagnosis whose higher level of education and "cognitive reserves," lead them to more comprehensive research into their own disease. On the other hand, since dementia attacks the brain itself, and many people experiencing it also have "Anosognosia," or the medical and mental inability to realize that anything is wrong, often it will be the caregivers who negotiate access to the best information.

LIBRARY COLLECTION DEVELOPMENT AND DEMENTIA SERVICES:

The service areas of collection development and collection management in LIS have also evolved towards considering the specific needs of a user base, so by teaching students to provide "non-pharmacological interventions" for dementia which are tied to the needs of this user community, LIS education can here, too, be an integral part of dementia care. The trend in collection development has been to make collection decisions based on the characteristics of the user base, though the focus on user needs has not translated well into consideration for older adults. The gap in knowing older adults' needs is especially poignant when considering the specific needs of those living with Alzheimer's and related dementias.

It has long been known in medicine that even as Alzheimer's progresses and reading comprehension deteriorates, some capacity for reading aloud remains (Paque, 1995). So the decline in traditional cognition through reading a linear narrative does not necessarily mean that

reading and library materials are moot for this population. On the contrary, what little is known about reading and dementia patients reveals positive impact. A seminal article in *The New England Journal of Medicine* (Verghese et al, 2003) correlated reading, board games, playing musical instruments, and dancing, as well as any learning of new information, with protection against dementia risk (see also AA, 2019, p. 11). Reading for even one hour a day can be a strong defense against the risk of dementia (Hughes et al., 2010); *shared* reading is especially powerful (Latchem & Greenhalgh, 2014). Importantly, the best cognitive stimulation for older adults is *active participation* in the intellectual activity, whereas passive activity such as television watching carries an increased dementia risk (ADI, 2014, p. 58). So even within dementia's trajectory, there is a place for shaping our collections to meet information needs, both for those living with dementia, and for the staff and caregivers who are living with them.

The most current cognition research (such as Sommerlad et al., 2019) also correlates greater social contact with both a lower risk of developing dementia and with higher cognitive performance. Thus we can think about how to keep older adults socially connected to one another through their library and any of its programs. Those experiencing cognitive decline may or may not be able to participate in a regular book group, but we can still offer mental stimulation and social connections, by reading aloud and generating discussion around stories. Collection development can further consider what are known as "Reminiscence Kits:" displays and Kits containing a variety of different themed materials, designed to foster social interaction among people living with cognitive decline and their care partners. The goal is to stimulate conversations and perhaps even memories, around a topic such as pets or old cars or music or holidays, facilitated by different kinds of physical and sensory stimuli.

ADULT PROGRAMMING FOR ALZHEIMER'S AND RELATED DEMENTIAS:

Building on the evidence-based assessment of non-pharmacological interventions against dementia (mental and social stimulation), library programming for this community also has a potentially powerful impact. Any activity can benefit older adults experiencing cognitive decline, as a therapeutic agent "reducing disability and maintaining physical function, preventing behavioral and psychological symptoms and reducing their frequency/severity of occurrence, [as well as enhancing] enjoyment and quality of life." (Gitlin & Hodgson, 2018, p. 81) So a spectrum of adult programming options can serve the needs of those living with Alzheimer's and related dementias with mental-cognitive stimulation, and social stimulation.

Interaction with *music* may be one of the most powerful tools for mental stimulation, as music travels multiple different neural pathways, strengthening mental agility and resilience (King et al., 2019). One music therapist tells us music "is generalized throughout the brain, rather than localized in one area, which may be part of the reason older adults retain musical information longer and recall musical memories much more clearly than nonmusical memories." (Hamons, 2017, p. 7) And there is good research about the impact of music specifically on those experiencing dementia: cognitive and emotional benefits from musical memories, defense against behavioral and psychological challenges (Clift, Gilbert, & Vella-Burrows, 2018), even increases in neuron-building activity (King et al., 2019) and immediate connectedness to one's own past (McDermott, Orrell, & Ridder, 2014). One specific program that is appropriate to share with students and practitioners is called Music & Memory (2020). The program's goal is to

stimulate musical memories and positive music-therapeutic effects, through donated phones and iPods loaded with tracks from an individual's past musical life.

Any kind of creative engagement (storytelling, painting, dance, poetry, drama), in fact, can strengthen mental "resilience," build a sense of control over life, and can even counter depression and behavioral issues (McFadden & Basting, 2010; Basting, 2020), so any kind of creative expression in library programs can boost neuroplasticity and mental resilience, as well as supporting creative connections to culture. There exist full-blown museum programs for dementia patrons including spin-offs from the Museum of Modern Art's "MOMA Alzheimer's Project" (MOMA, 2020). Much as with music therapy through Music & Memory, this museum program uses visual images to spark conversations in those living with cognitive impairment. Specially-trained docents lead dementia-friendly tours, which include generally three to five works of art; representational works and those with larger canvases to focus attention and avoid distractions. The docents prompt reminiscences and social interaction with caregivers and others. The tour is thus not "educational" or informational; the central intent is to spark social conversations.

Games and technology can also be great tools for non-pharmacological interventions, and can be transformational practices to teach LIS students. Despite the popular misconception that older adults shy away from technology, record numbers of them already use smartphones (Anderson & Perrin, 2017), and they are known to express more interest in health information games (Johnson & Case, 2013, p. 205). LIS practitioners can use iPads for mental stimulation puzzles and games. Assistive technologies can help older adults not only with mobility, but can add richer multi-media environments to basic reminiscence therapies (Lazar, Thompson, & Demiris, 2014). Digital storytelling is one specific technological enhancement to the power of stories for sharing and reminiscence therapy (Park, Owens, Kaufman, & Liu, 2017). Some libraries have considered "Sensory Spaces" for programming with autism spectrum and dementia patrons in mind. Technology within this kind of room supports very limited sensory stimulation to calm people, or very active sensory stimulation for different therapeutic benefits (Damron, 2019). Other exploratory studies have even looked at uses of Mixed Reality to assist reminiscence therapies: a virtual "mixed reality aquarium," an interactive movie database, and a digital photobook. (Bejan et al, 2018; the results showed some improvement in therapeutic experience for those living with dementia, though this was also just a small-sample study).

The global dementia epidemic confronts humanity with a lot of bad news, but LIS education can prepare the next generation of librarians and information professionals to make a positive impact within this marginalized community. Better communication skills serve these patrons with sensitivity and competence, and our collections, information resources, and adult programming can enhance quality of life with dementia and can in some cases even prevent dementia or help to delay its onset. Librarians can realize our potential as partners on the care team and as support for the direct caregivers.

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Designing the MLIS: How Design Thinking Can Prepare Information Professionals

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ABSTRACT

In recent years, the library profession has embraced the value of design thinking for designing services, serving users, and organizing physical spaces. This paper describes the developments that led to the incorporation of design thinking in a Masters in Library and Information Science program at the University of Pittsburgh. Through a three-course *Design Methods Sequence (DMS)*, students engage in sustained partnerships with organizations in the local community. This paper provides insights from a pilot instructional year, highlighting ways in which the DMS may serve as a model for MLIS programs that aim to build experiential learning opportunities for students.

ALISE RESEARCH TAXONOMY TOPICS

curriculum; pedagogy; community engagement; information needs; human-computer interaction & design

AUTHOR KEYWORDS

design thinking

INTRODUCTION

Design thinking, the creative, human-centered approach to problem-solving, has been used to improve systems, services, and spaces in libraries. Because libraries are typically risk-averse, design thinking can encourage agile change and innovation in libraries (Meier & Miller, 2016). Design thinking has been identified as an important framework for library instruction (Bell & Shank, 2007), for renovating library spaces (Rodgers, 2019), for creating library signage (Luca & Narayan, 2016), and for improving customer service (Cecchetto, 2016). In playing an important role in librarianship and having the potential to encourage further cultural change in libraries, design thinking is well suited to the MLIS curriculum.

This paper describes the theoretical and practical developments that led to the incorporation of design thinking and methods in a Masters in Library and Information Science program at the University of Pittsburgh. Through a required, three-course *Design Methods*

Sequence (DMS), students develop competencies in design methods, and project management while engaging in a sustained collaborative partnership with an organization in the local community. Pitt's DMS can serve as a model for others who wish to provide students with experiential learning opportunities that develop skills and knowledge necessary for the information professions.

DESIGN THINKING

Design thinking is a human-centered, creative method of solving ambiguous, complex, and ever-changing problems - so-called “wicked problems” (Gram, 2020). Originally situated within the context of professional design firms, design thinking entered the mainstream in the 1990s with the formation of IDEO, a design consultancy firm, and Delft University of Technology's first Research in Design conference (Cross, Dorst, & Roozenburg, 1992). Design thinking can be used to create products, systems, strategies, and services. An essential aspect of design thinking is that the underlying problems with current systems and strategies are discovered and understood before any solutions are proposed.

Design Thinking's approach to problem solving consists of five stages:

- *Empathize* - Gather information and understand as much as possible know about the problem or need.
- *Problemize* - Formulate and reformulate the problem by analyzing collected information from multiple perspectives.
- *Ideate* - Convene brainstorming sessions to generate as many ideas as possible. There are no bad ideas, no matter how unconventional.
- *Prototype* - Take the best ideas and build prototypes through rapid iteration.
- *Implement* - Bring a minimum viable product into production.
- *Evaluate* - Perform rigorous assessment, both formative and summative, through user feedback and observation to measure success.

Design is an entire disciplinary world that has inspired the creation of intellectual traditions and dedicated schools, while also fueling fierce ontological debates (Vinsel, 2018). It is important to recognize Design Thinking as a branded, corporatized, and commodified concept devoid of substance and used as currency in a marketplace for consumer attention. Hence, when teaching and learning about Design Thinking, it should be presented alongside salient critiques, such as its tendency for perpetuating hegemony (Iskander, 2018). The concept and critique can be brought together through initiatives like equityXdesign reimagine Design Thinking to address racism and injustice (equityXdesign, 2016).

In the abstract, the objectives of design are to “create things people want” (Konsorski-Lang & Hampe, 2010) by “addressing problems or ideas in a situated context” (Binder et al., 2011). Design Thinking has emerged as a framework for the application of design oriented approaches to problem solving in a variety of organizational contexts (Brown, 2009). As Herbert Simon (1969) put it, “Everyone designs who devises courses of action aimed at changing existing situations into preferred ones.” These objectives are aligned with some (though certainly not all) of the objectives of librarianship.

DESIGN THINKING IN LIBRARIES

Rachel Ivy Clarke (2018) has argued that there is a significant overlap between design thinking and librarianship. Classic library science techniques such as the reference interview have a strong affinity with qualitative information-gathering techniques, such as user interviews in human-centric design. A prominent example is the *Design Thinking for Libraries Toolkit* (2018), which provides practical guidance, processes, and tools for libraries to improve patron services and enact organizational change. Funded by the Bill and Melinda Gates foundation, the toolkit was created by IDEO in partnership with Chicago Public Libraries and Aarhus Public Libraries in Denmark. Large professional organizations have explored this topic through articles and conference presentations in an effort to help their membership understand design thinking. ACRL ran a “Keeping up with...Design Thinking” article about the value of design thinking in academic libraries (Leuzinger et al., 2018) and the Library of the Future initiative from ALA (2018) lists Design Thinking as a trend that is particularly relevant to education. Design thinking can influence and improve how libraries serve researchers and learners, organize library spaces, and improve their own services. As design thinking gains more mindshare in the professional community, the need to educate new information professionals on the approaches and methods of design thinking becomes clear.

DESIGN THINKING IN LIS EDUCATION

The inclusion of design thinking approaches in MLIS programs has been proposed at various levels, from experiential learning, to individual classes, to completely new graduate degree programs. A CLIR Report (2008) envisioned innovative, client-centric experiences as a central theme for future curricular design in MLIS graduate programs. The report advocated for studio-based education and facilitating interaction between students and real-world clients, modeling the MLIS on Design School pedagogy. Clarke and Bell (2018) write about the need to transition the MLS to the MLD - Masters of Library Design, which integrates design thinking throughout the coursework, encourages learning by doing, and uses a studio-based education format. They commend the work being done to integrate some design thinking coursework at the University of Washington, Simmons University, and San Jose State University, but advocate for a more comprehensive integration of design thinking within LIS curriculum. Pitt determined the ideal curricular mechanism for incorporating design thinking into the MLIS curriculum would be to create an extended, multi-course experience that synthesizes design thinking theory with real-world engagements to put theory into practice. Design thinking and methods have been integrated into the MLIS curriculum to create a bridge outside of LIS, including with other programs in the School of Computing and Information, where Pitt’s MLIS is housed. Design thinking is the conceptual framework used to structure the instruction of multiple, related concepts and techniques that are not exclusive to design.

THE DESIGN METHODS SEQUENCE

The MLIS program at the [Authors' Institution] is a year-long, three-term, thirty-six credit program within the Department of Information Culture and Data Stewardship (ICDS) in the School of Computing and Information. A curricular redesign process was undertaken during the 2018-2019 academic year, with the redesigned MLIS program launching in the 2019-2020 year. In the redesigned curriculum, students are required to take six courses - three on foundational LIS concepts, and three in the *Design Methods Sequence*. Students are enrolled face-to-face and online, but for the first year of the redesigned curriculum, the Design Methods Sequence (DMS) was offered to full-time, face-to-face students only.

Experiential learning is not a new feature of LIS programs (Bell, 2018). For many years, Pitt's program has included a "field experience" elective, with supervised professional work and class meetings for reflective discussion with an instructor and cohort. Instructors also embed experiential learning projects in individual courses. The DMS differs from these existing prior offerings in that it is sustained, methods-based, and group-oriented. Through multiple terms the teams of students learn specific methodologies, *Contextual Inquiry & Design*, for working with their community partners. The engagement is much more structured with specific deliverables and guidance from the instructional team than the field experience—which is a *complement* to the DMS.

The DMS begins in the Fall Term and ends in the Summer Term. Students are placed in teams of 4-5 members in the fall, and continue to work with the same team through the end of the summer. Teams are assigned to local partner organizations, with whom they also work throughout all three terms. The first course in the DMS is *Identifying Information Needs of Knowledge Organizations*, which focuses on using contextual inquiry and qualitative research methods to learn about the partner organization and the challenges posed by their information problem. Students learn and practice the design thinking concepts of *problem framing* and *ideation*, while also learning vital teamwork and project planning skills. The second course in the DMS is *Implementing Solutions for Knowledge Organizations*, in which student teams *develop*, *prototype*, and *test* solutions for their partner organizations. The course focuses on user-centered design, low fidelity and high fidelity prototyping, agile methodology, and iteration. The third and final course in the DMS is *Integrating Solutions for Knowledge Organizations*, which asks students to consider how to evaluate the success of their solution, and what resources they will leave with the partner organization to ensure the longevity of the solution.

Because working with organizational partners is key to the success of the DMS, faculty work with libraries and other non-profit organizations to discuss the DMS, the role of organizational partners, and what information problems would be appropriate for student teams to try to solve. After initial contact, faculty meet with potential partners to further scope their project ideas. Information problems should not be mission-critical; instead, they are problems that partners identify as persistent issues that they have not had the resources to dedicate to solving. After projects are scoped, potential partners submit an application that includes contact information, a description of the project, and general area(s) where the project fails (technology, communication, public services, etc.).

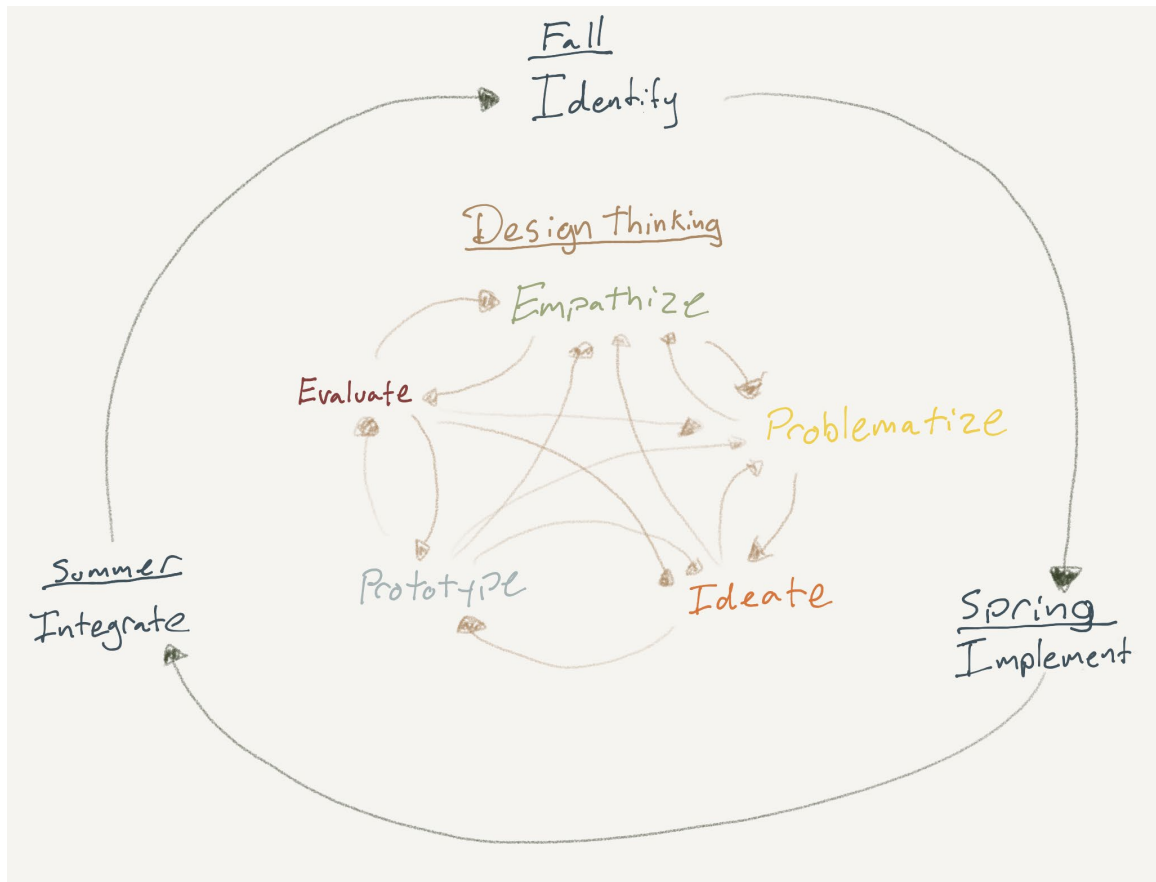


Figure 1. Representation of the three-part Design Methods sequence and the five stages of design thinking

The three-course DMS helps students:

- Develop a repertoire of *design methods* conceptually scaffolded by Design Thinking and values-sensitive, human-centric design.
- Work effectively in small, diverse teams on a specific task for an extended period of time.
- Collaborate with external partners, organizations, and communities to understand and solve problems.
- Learn about the mission, culture, values, and practices of specific knowledge organizations.

The following sections describe these learning goals in further detail and provide preliminary insights into how they have been met during the first year of teaching the DMS.

Develop a Repertoire of Design Methods

An objective of the DMS is to help students to develop a *design repertoire* that allows them to apply the design methods they have learned in a variety of professional contexts. Design methods comprise a repertoire of human-centric design processes, procedures, and techniques for collecting, analyzing, and using data to design solutions to problems (Hanington & Martin,

2012). By teaching students the language, concepts, and techniques of design methods they will be prepared to work as 21st century information professionals.

The first term is dedicated to teaching students *contextual inquiry and design* (Holtzblatt & Beyer, 2013), specifically interviewing and observing work-in-context. Assignments are oriented towards the main deliverables of contextual inquiry including work models, affinity diagrams, briefings, and a final report. The second term is dedicated towards implementation, so the students learn to develop and evaluate prototypes through design critiques and user studies. The feedback they obtain from "testing" their prototypes leads to several iterations on their designs based on feedback from their "users." In the final term, students focus on evaluation of the final design and project transition. The course provides an overview of quantitative and qualitative methods of assessment, and students propose and implement an evaluation plan for the design solution. Then they develop a transition plan to hand off the design to the organizational partners.

Work as a Small, Diverse Team on a Specific Project for an Extended Period of Time

Collaborative, interpersonal skills are vital for information professionals as they work in the broader world. These skills can be difficult to teach in traditional classroom settings introduced as abstract concepts and divorced from a specific context. The DMS provides a structure for students to learn-by-doing in the context of a year-long project on a small team. Further, this framework requires students to develop their project management and critical thinking skills in a collaborative setting and to successfully exchange ideas with team members from diverse backgrounds. Being able to work on teams and collaborate with other people and organizations in an ethical and thoughtful way are fundamental skills of information professionals in libraries, archives, museums, and most other contexts where our graduates will find themselves in the future.

Groups were deliberately composed of students with a variety of interests (archives, academic libraries, school libraries, public libraries) to form teams with mixed interest areas. Teams with heterogeneous interests and experience are often more effective at problem solving (De Faria et al., 2006). The assignments are primarily group-based activities, so teams need to equitably divide up the work, communicate expectations, and collaborate effectively to accomplish each task. While conflicts arise, it is primarily the responsibility of the students to work together to resolve them. The faculty must sometimes intervene to resolve group tensions, but as a mediator who helps the team develop a productive working relationship.

Collaborate with a Partner Organization

Providing students with real-world opportunities to experience and practice the concepts, ideas, tools, and methods they learn throughout the program is a fundamental component of the MLIS redesign. Pittsburgh is home to a plethora of potential organizational partners, including libraries, archives, museums, government offices, and for-profit and nonprofit companies. Over the course of three terms, students focus on specific, bounded, and scoped information problems within the context of a knowledge institution. In consultation with the partner organization, the students apply the design methodologies, concepts, and skills acquired from their coursework to

address their partner organization's particular problem or need. Through a sustained, year-long partnership, students and external organizations forge professional connections that will benefit them moving forward.

For the pilot year, faculty recruited partner organizations from the local community, drawing on existing relationships. These partners included academic libraries, health libraries, nonprofits, and even the local census. Partner organizations may not represent the students' anticipated career area, but the problems they face and the work they do are relevant and informative to the students. Anecdotally, when collaborating with real-world partners, the students are motivated to do good work because they are obliged not only to the instructional team, but also to their partners. While additional investigation is necessary to determine conclusively if this is a recurring outcome, students have expressed a desire to not let their partners down.

Learn about the culture, values, and practices of a particular information organization

Students have a variety of interests regarding where they may want to work upon graduation. The partner organizations provide students an opportunity to learn first-hand about real-world work. The specific nature of student's collaborations with an organization encourages them to listen, observe, and learn about the mission, vision, and culture of the organization, what it values, how it functions. This understanding will not come from abstract, classroom-based instruction but from real-world encounters with practitioners in the field. The classroom instruction instead focuses on *learning how to learn* about culture, values, and practices through design methods like interviewing, observation, and contextual inquiry. In this way the program prepares students to work in *any* information organization and to be adaptable as they grow in their professional careers.

Many of the design methods, especially those related to inquiry and investigation, provide students with the ability to learn what is meaningful to their partners. The interviewing and observation techniques emphasize setting aside preconceived notions about libraries, archives, non-profits, or municipal governments. Working with these organizations over the course of a year enables them to establish a substantive relationship where they can make meaningful contributions to their partner organization's work. Students may learn about the idealized theory of archives and records management in other coursework, but they learn about the messy reality of archival practice in their DMS projects.

FUTURE POSSIBILITIES AND CHALLENGES

The DMS has appeal to students in a number of majors and programs, beyond the MLIS program. As described, the DMS encourages students to learn about any information organization and to collaborate with the organization to develop and prototype solutions. Students in fields like information science, computer science, sociology, environmental studies, and a host of other disciplines could benefit from the DMS. The challenge is in the sustainability of the program through continued resources, especially personnel to both teach the DMS and continue soliciting and maintaining relationships with organizations in the Pittsburgh area to be

DMS partners. Additional future changes include integrating critical design thinking into the DMS and restructuring the DMS to two terms instead of three to streamline the course series.

CONCLUSION

This paper overviews the goals and design of the DMS at the University of Pittsburgh. We are currently delivering the first version of the DMS and are conducting a formal assessment involving feedback from our students and organizational partners. We intend to share future work with the instructional community, including an evaluation of our first iteration, subsequent modifications to the model, and the implementation of an online DMS experience.

In presenting the DMS, we recognize that not every MLIS program can implement a three-course requirement. Instead, we must consider how design methods might be incorporated into existing curricular structures. While there has been criticism of one-off courses (Clarke & Bell, 2018), there must be a middle ground between a single course and a three-course sequence. Such a middle ground could be incorporating design thinking into existing coursework and experiential learning opportunities. MLIS programs can introduce design thinking in introductory courses, and weave methods, understandings, and case studies of implementation as a thread through subsequent courses. Instructors can build semester-long assignments that require the application of design thinking methods. Field experiences, internships, and other experiential learning opportunities could be grounded in design thinking and used as a lens through which students can reflect upon their experience.

We believe these lighter models for incorporating design methods can still achieve a meaningful and comprehensive experience. Communities like ALISE can serve as a vehicle for sharing strategies for building design thinking into curriculum and for assessing the impact of these pedagogical efforts on the profession.

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Skill-Building in Online Metadata Instruction: Quality Evaluation of Student-Created Metadata

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ABSTRACT

As metadata quality directly affects access to information, training LIS students to create high-quality metadata is an important task. To provide an effective training, a vision is needed for where best to focus the efforts. That vision should be informed by empirical data on the common quality problems in student-created metadata records in relation to the content and methods of instruction. We attempt to address this need through an overview of the metadata creation skill-building content of the online introductory graduate metadata course, results of the analysis of quality in student-created metadata records, and discussion of how the observed common metadata quality issues might inform curriculum development.

ALISE RESEARCH TAXONOMY TOPICS AND AUTHOR KEYWORDS

metadata; education; curriculum; online learning; students

AUTHOR KEYWORDS

skill-building instruction; metadata education; online pedagogy; quality evaluation

INTRODUCTION

In the knowledge-based economy, the demand for highly qualified specialists rapidly grows, with the nature of the work performed by knowledge workers ever-changing in response to market and technological developments. As a result, one of the two integral components of knowledge – skills – must receive greater emphasis in instructional design. Importantly, effectiveness of skill transmission depends on amounts of practice and appropriateness of teaching methods and technologies for skills development (Bates, 2015).

The dramatically changed landscape of metadata work continues to rapidly evolve. Analyses of employer-posted job ads, surveys of metadata practitioners and educators conducted to identify important skills and traits, place metadata quality and its evaluation among the perceived priorities in metadata education – along with willingness to learn and flexibility – as metadata quality has a direct effect on the ability of users worldwide to access information (e.g., Hall-Ellis, 2015; Park & Lu, 2009, etc.). To evaluate how skills are developed in the metadata-related coursework, most studies conduct the snapshot-level analyses for measures like number and type of courses, offering frequency, required vs. elective course status, and lists of topics taught (e.g., Joudrey & McGinnis, 2014). Several more in-depth reports focused on how the specific metadata skills are developed through curricula, assignments and other activities in metadata courses; however, with exception of Zavalina (2017) brief report, none of them focused on the metadata quality skill-building as a topic of growing importance.

Training of future metadata specialists to create high-quality metadata is an important, yet challenging, task for LIS educators. To be able to provide such training in an effective way, the field needs understanding of the common patterns in metadata quality of the student-created records and the way these patterns correlate with the content and methods of instruction. The LIS educators have been at the forefront of developing and offering online education, and some iSchools have accumulated significant experience in teaching graduate metadata courses online. With the long-term demand for online course offering, that has significantly intensified this year due to the need for adjustment to the circumstances dictated by the pandemic, the new normal of LIS education (including metadata education) is online delivery mode. In this situation, it is particularly timely to provide empirical support for online course development based on the lessons learned by long-term online metadata instructors. Such reports will help transform LIS metadata education – with the focus on improving its effectiveness – in the rapidly changing, interconnected world.

We address this need for empirical data to evaluate the effectiveness of curriculum that supports online learning of the metadata-quality-related group of skills and identify the areas in need of reinforcement. In this paper, we provide a brief overview of the quality metadata creation skill-building in the graduate metadata course offered in synchronous online mode at the University of North Texas (UNT), report results of the analysis of quality in student-created metadata records, and discuss possible solutions to improve metadata teaching and learning.

OVERVIEW OF HIGH-QUALITY METADATA CREATION SKILL-BUILDING IN THE ONLINE GRADUATE METADATA COURSE

The INFO 5223 introductory graduate level metadata course has been offered at UNT continuously since 2000, mostly online. Since 2014, it is offered 3 times a year (to a total of 70-90 students annually), with weekly synchronous class meetings. Learning outcomes include understanding the purpose and various components of metadata schemes (e.g., structure, elements, syntax, semantics), data content and data value standards (including controlled vocabularies), and XML and HTML syntaxes for metadata encoding.

The course is organized into eight Learning Modules, where each module builds on the previous ones:

1. Introduction and metadata role in information organization and retrieval
2. Components of a metadata scheme
3. Data content and data value standards
4. Syntax for encoding metadata
5. Dublin Core item-level metadata
6. MODS item-level metadata
7. VRA Core 4.0 item-level metadata
8. Collection-level metadata.

Students develop practical experience with standard metadata schemes (Dublin Core, MODS, and VRA Core 4.0), and the UNT Libraries metadata application profile as they gain skills in representing textual and non-textual information objects through two main assignments. The Portal to Texas History Metadata Exercise provides the first opportunity to create item-level metadata records using online metadata submission forms. After obtaining this real-life metadata

experience and learning about standard metadata schemes, students work on the Creating Metadata Records Project. In that major project, which consists of 4 components, students practice creating item-level metadata records individually and collection-level metadata records in teams, using XML and HTML syntax templates.

The following readings are required for learning modules 5-7:

1. the learning module lecture document that includes:
 - a. history of the metadata scheme development
 - b. structure of the metadata scheme (element set, cardinality, order of elements in metadata record, element attributes and attribute values)
 - c. definition and uses for each metadata element
 - d. recommended controlled vocabularies and data encoding standards
 - e. an illustrative example metadata record with in-depth explanation on the application of each element in the record
2. external readings, including the metadata standard itself, and the official usage guide for it
3. a two-hour live interactive presentation delivered by instructor in synchronous online class meeting, with the slide set, Zoom recording, transcription, and text chat log posted for students, including:
 - a. introduction of the learning module lecture document and external readings
 - b. detailed walkthrough of the process of creating example metadata record(s)
 - c. in class mini exercises
 - d. explanation of the Creating Metadata Records Project requirements related to the topic of the learning module
 - e. question and answer session.

In the Creating Metadata Records Project, students implement the knowledge and skills obtained in all eight Learning Modules. Each student creates DCTERMS, MODS, and VRA Core 4.0 metadata records for two unique items: a textual object (academic writing or a website on a metadata topic) and a non-textual object (painting in the National Gallery of Art or Art Institute of Chicago collection). The final component of the Creating Metadata Records Project is the team creation of Dublin Core Collection Application Profile records for two team's collections: textual objects and paintings.

As part of the Creating Metadata Records Project, students submit three individual reports that contain student-created metadata records in XML syntax. Each submission is graded by a Teaching Assistant, a Ph.D. student in Information Science, who must have metadata experience obtained through coursework and research projects. Course developer and instructor provides the TA with a rubric for evaluation of records, including criteria of accuracy, completeness, and consistency, and the associated grade points. For example, for DCTERMS student-created metadata records, the completeness evaluation includes submission of both metadata records and the presence of all applicable elements (with repeated elements instances whenever applicable). TAs markup student submissions with corrections and comments on metadata quality issues observed in the records, and assign the grade based on the rubric. Individualized feedback – annotated submission with TA comments and corrections – is returned to each student through the course website, and students are encouraged to examine the feedback and ask questions.

Metadata quality is currently covered in the course at a somewhat fragmented level, without a designated learning module focusing on this topic. As part of introduction to the first major standard metadata scheme to the class, instructor presents the common quality problems found by available evaluations of Dublin Core metadata records in digital libraries and repositories (as summarized by Jackson et al., 2008), demonstrates examples of such problems in DCTERMS records, along with suggested corrections, and encourages students to avoid these metadata quality problems. The instructor also briefly explains to students the major quality criteria in the grading rubric for the three Creating Metadata Records submissions – accuracy, completeness, and consistency – when introducing the project. Finally, during three additional class meetings, instructor presents to students the generalized summary of common metadata quality problems in student-created records after each of the three reports is graded.

STUDY PURPOSE AND METHODS

The goal of this exploratory study is to develop understanding of the overall quality of student-created metadata records, identify the metadata fields where student errors commonly occur, the typical metadata quality issues, and how this relates to the level and content of instruction received by students on the creation of high-quality metadata records. We explored the following research questions:

1. What metadata quality issues related to major metadata quality criteria of completeness, accuracy, and consistency are found in metadata records created by students of the graduate metadata course?
2. How are these metadata quality problems distributed?
3. How does the quality of student-created metadata records compare with the metadata quality in the digital libraries and repositories reported by previous studies?
4. What is the relationship between the observed quality issues in student-created metadata records and level and content of instruction on metadata quality?

To address the research questions, content analysis of student-created metadata records annotated by Teaching Assistants was used. Data from three semesters – Spring, Summer, and Fall of 2019 – was selected for the following reasons:

1. the course was taught by the same instructor (who is also the developer of the course); this minimized possible instruction variation due to different teaching styles
2. assignment descriptions and course materials for the relevant learning modules remained consistent throughout these three semesters, after the substantial update in early January of 2019.

Metadata records that represent textual objects were selected for analysis due to the potentially broader applicability of findings regarding metadata quality in records representing textual works (journal articles, book chapters, conference papers, standards, websites etc.) as opposed to the much more specialized metadata representing artwork. Analysis focused on the DCTERMS metadata records because Dublin Core is the most common metadata scheme in digital libraries and archives, its application was examined before, and it is commonly taught in metadata courses. This approach allows for comparisons and makes results more broadly useful for developers and instructors of metadata courses.

The binary coding approach was utilized in evaluation of a total of 74 student-created metadata records representing 37 unique information objects. A code '0' was used if a metadata field did not contain any quality problems. If there were one or more quality errors in a metadata field, a code '1' was selected, and the comment describing the error(s) was added. Metadata fields not applicable to the information object in question were marked with the code 'n/a'. Descriptive statistics indicators such as median, range, standard deviation, and percentages were measured for the overall number of fields with metadata quality problems per metadata record, as well as for the overall number of metadata quality problems per metadata field across a set of student-created records. The same indicators were also measured for each of the three specific categories of metadata quality based on the major metadata quality criteria: accuracy, completeness, and consistency (Bruce & Hillmann, 2004).

PRELIMINARY FINDINGS

Our analysis revealed common problems with metadata quality that are briefly summarized here. Metadata quality problems mainly revolved around authority control: assigning subject terms from controlled vocabularies and using name authority files. Also, XML attribute-value pairs that should represent a controlled vocabulary that served as a source of a data value were not applied by students consistently or accurately. The varied use of *Coverage*, *Description*, and *Relation* groups of elements also point to an insufficient understanding of these metadata elements' semantics. Overall, completeness and accuracy problems were found to be much more widespread in student-created metadata records compared to consistency problems.

Existing studies of Dublin Core metadata in digital libraries and repositories offer a point of comparison to our data. We observed that instances of applicable metadata fields representing dates are missing in almost 34% of student-created records. This indicates a substantially lower level of application than in Jackson et. al. (2008), Kurtz (2010), and Weagley, Gelches, and Park (2010) studies which found that 86%-100% of records included *Date* field. The most often omitted fields in student-created metadata records were those representing relations between information objects: applicable but missing in almost 50%. This is a significantly higher level of omission than that observed by Jackson et al., and Weagley et al. (33%-34% of records).

Our analysis demonstrates a relatively high level of completeness in subject metadata (only 8% and 2.7% of student-created records omitted *Subject* and *Spatial Coverage* fields respectively) compared with findings of Kurtz (2010) and Weagley et al. (2010) that *Subject* and *Coverage* fields were missing in 35% and 49% or more of Dublin Core records respectively. On the other hand, crucial for intellectual access subject metadata fields contained a high number of accuracy and consistency errors in student-created records. The same was true about other fields under authority control: *Creator*, *Contributor*, etc.

LIMITATIONS, DISCUSSION AND CONCLUSION

Results of this small-scale case study may not be statistically generalizable beyond UNT graduate metadata instruction. However, they empirically support observations made by practitioners and educators in cataloging and digital library metadata management (based on the studies and anecdotal evidence) and allow to draw meaningful conclusions. For example, our

study confirms earlier findings that subject analysis and subject representation, as well as authority control, are the most complex and intellectually challenging tasks in the process of creating metadata records (e.g., Cabonero & Dolendo, 2013; Snow & Hoffmann, 2015). Likewise, our findings support existing anecdotal evidence that representation of relationships among various information objects and other entities is conceptually difficult. This emphasizes the need for improving instruction on how to analyze and represent aboutness and relationships (especially the logical pairs of reciprocal relations between entities, including information objects, concepts, etc.). To ensure knowledge retention, we believe these topics should be taught repeatedly at various levels (e.g., in general core courses and specialization courses), using a variety of examples, and with extensive practical exercises to reinforce the knowledge through learning-by-doing.

Another possibly viable solution to persistent metadata quality errors that impede information retrieval would be further raising the students' awareness of metadata quality. This study results suggest that in teaching introductory metadata courses, more emphasis needs to be placed on the metadata quality criteria, evaluation of metadata against these criteria, and the specific ways certain metadata quality issues negatively impact the functionality of metadata in supporting user tasks of finding, identifying, selecting, obtaining, and exploring information as defined by the Library Reference Model (IFLA, 2017). This could be achieved through a learning module entirely focusing on metadata quality, and an associated practical exercise, in which students would evaluate the quality of metadata records created by themselves and/or their peers. At UNT, this is currently implemented in the advanced metadata course INFO 5224. However, it appears that reliance on advanced metadata courses for in-depth metadata quality coverage should be reconsidered. Advanced metadata courses are taken by significantly smaller number of students compared to introductory courses (e.g., 8-12 a year as opposed to 70-90 at UNT), and it is not a widespread practice in LIS schools to regularly offer advanced metadata courses (e.g., Davis, 2008, etc.). To ensure metadata education fulfills its mission and maintains its value in the changing environment, LIS programs need to adequately prepare future librarians for creating high-quality metadata that would fully support the functions of metadata at providing access to information in a connected world. Therefore, focused metadata quality training would be best placed in the introductory metadata courses that are taken by high proportion of LIS students worldwide.

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Connecting for Successful Transition: Postgraduate Distance Library and Information Studies Students' Transition Experiences

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ABSTRACT

Transition in an educational context refers to the shift from one educational environment to another and involves students adapting to a new learning context. The literature on transition is plentiful but mostly focused on transitioning to school, between primary and secondary school or from school to university. While there is a common perception that the transition from undergraduate to postgraduate study requires only minor adjustments for students, evidence suggests that postgraduate students often experience transition difficulties, exacerbated when learning is undertaken at a distance and opportunities for face-to-face interpersonal interactions to address misgivings and ease transition are limited. Drawing on selected results of a study investigating Library and Information Studies (LIS) student experiences as they transition into postgraduate distance learning, this paper explores factors that facilitate and challenge postgraduate distance (PGD) students' successful transition.

ALISE RESEARCH TAXONOMY TOPICS

online learning; education programs/schools; students; administration

AUTHOR KEYWORDS

online learning; distance learning; postgraduate students; LIS students; transition; orientation

INTRODUCTION

Although the literature on transition to university study is plentiful, the vast majority of work on the topic focuses on school-leavers transitioning to conventional, on-campus, face-to-face undergraduate learning. Evidence suggests that postgraduate students experience transition differently from undergraduates and that while transitioning to postgraduate study is similar to other transition stages in some ways, it also has significant differences (Symons, 2011; Cluett

and Skene, 2006). These differences are amplified when learning is undertaken at a distance and opportunities for face-to-face interpersonal interactions to address misgivings and ease transition are limited (Jones, 2015). Drawing on selected results of a study investigating Library and Information Studies (LIS) student experiences as they transition into postgraduate distance learning, this paper explores factors that facilitate and challenge postgraduate distance (PGD) students' successful transition.

The research seeks to fill a gap in our knowledge and understanding about the nature of PGD students' transition experiences, particularly from the student perspective, to give us insights into their specific transition needs and to assist education providers design appropriate interventions to assist their successful transition into PGD learning. The research questions addressed are:

1. How do students experience the transition to PGD study?
2. What support is helpful for students transitioning to PGD study?
3. What challenges PGD students' successful transition?

The study focuses on postgraduate students taking taught courses at a distance, not those undertaking research degrees.

LITERATURE REVIEW

Context

Evidence suggests that both postgraduate study and distance learning are areas of growth for tertiary education providers internationally. In the UK, for example, postgraduate students made up 20% of total higher education enrolments in 2019 (HESA, 2020) while in Australia, Masters by Coursework student numbers rose by 11% from 2017 to 2018 (Department of Education, Skills & Employment, 2019). The rise in popularity of distance education has been enabled by increasingly sophisticated technology and networks which enable distance modes of study to overcome geographical isolation and meet the needs of those excluded from on-campus study due to health issues or social, family-related or economic reasons (Miles, Mensinga, & Zuchowski, 2018, p.705). As a consequence, in 2016, the number of distance education students grew 5.6% to 6,359,121, representing 31.6% of all students in the U.S.A. (Seaman, Allen, & Seaman, 2018).

Despite these increases, challenges for students of both postgraduate and distance education have been identified in the literature. One previous investigation of students' views found that transitioning into postgraduate study is a significant process which 63% of students found difficult (West, 2012) while Duranton and Mason (2012) suggest that the quality of students' experiences with distance education varies dramatically between institutions, often dependent upon the capacity of the organisation to support appropriate technological interventions for course development and delivery. In this context, ensuring that postgraduate distance students have appropriate and timely support as they transition into their learning is essential and requires a different approach from more conventional modes of instruction.

Transition

Transition generally means changing from one form or condition to another (Cambridge Dictionary, n.d.). Transition in an educational context has been defined and explained in a variety of different ways (Heussi, 2012; Prescott & Hellstén, 2005; Hussey & Smith, 2010) but generally refers to the shift from one educational environment to another (Tobbell, O'Donnell, & Zammit, 2010, p.265) and involves students adapting to a new learning context; it covers aspects such as their expectations and preparation, study capability and socialization. As noted above, the literature on transition is plentiful but mostly focused on transitioning to school, between primary and secondary school or from school to university (Dockett & Perry, 2004; Tobbell, 2003; Macaro & Wingate, 2004), and, in terms of university transition, there is a strong focus on international students (Evans et al., 2018). There is perhaps a common perception that the transition from undergraduate to postgraduate study requires only minor adjustment in students' attitudes and study habits (West, 2012). Because postgraduate courses are often taught in a similar way to those in undergraduate programmes, the transition to postgraduate level is frequently assumed to be more straightforward and unproblematic than other transition stages (Symons, 2011). Survey evidence indicates the reality is quite different, however. West (2012) found that 63% of postgraduate students experienced transition as significant and difficult while Cluett and Skene's (2006) survey showed that 80% of postgraduate students felt overwhelmed in their first year of study. The evidence suggests, therefore, that transition to postgraduate study is an important but often underemphasised aspect of student success at this level.

Distance learning

The definition of distance learning has evolved over time, but it generally refers to providing access to learning for those who are geographically distant (Moore, Dickson-Deane, & Galyen, 2011). Today, distance learning is usually undertaken through an online platform. The literature discusses the many benefits that distance learning offers post-graduate students. First, flexibility is one of the mostly mentioned benefits in the literature; giving students the opportunities to access their studies anywhere underpins widening participation (Osborne, 2003; Seaman, Allen, & Seaman, 2018). According to a survey of PGD students conducted by Duranton and Mason (2012), 90% of respondents indicated that the mode of delivery was an influential reason for selecting their course. For LIS postgraduate learners specifically, this flexibility is crucial, given that many are mature with caring responsibilities or in employment, and often embarking on their second career (Deeming and Chelin, 2001; Lambert and Newman, 2012). In this context, the ability to access learning at a distance is a significant advantage although the suitability of distance learning for postgraduate learning has been questioned. Holzweiss et al. (2014) highlight differences in undergraduate and postgraduate learning expectations, needs and strategies and emphasise the need to design online courses for postgraduate-level deep learning and professional development in their specific field, including measures to establish community and encourage reflection. This kind of interaction is not always easy to establish online, however, and Jones (2015) comments that the lack of interpersonal interaction between instructors and students and among students is a disadvantage of distance learning for PGD students, leading to what Duranton and Mason (2012) term "the loneliness of the long-distance learner". They suggest it is the institution's responsibility to minimise the isolation of individual learners and open up new opportunities for the learner to participate in a

learning community. A better understanding of PGD students' specific transition needs will help inform institutional approaches and initiatives, and the study reported here aimed to contribute to that understanding with a specific focus on LIS students.

METHODS

An anonymous online questionnaire was designed and distributed to gather insights and understanding of PGD learners' transition experiences (Appendix A). The sampling method was purposive: PGD students and alumni of the Information Studies programmes of Victoria University of Wellington, New Zealand. Six key themes were identified in an analysis of relevant literature as important for PDG learners' successful transition and these formed the basis of the questionnaire: orientation; self-evaluation; expectations; information about learning support; studying online at a distance; and university learning support. Respondents were asked to respond to statements about their perceptions and experiences for each key theme on a five point Likert scale, followed by open questions allowing them to explain their responses or add more detail. The questionnaire included questions about demographics and a final section asked for respondents' overall assessments. The link to the questionnaire was distributed via an email list and the survey remained open for two weeks. Forty-five responses were returned - 21 from alumni and 24 from current students. Respondents were offered the opportunity to enter a prize draw for a voucher of their choice to encourage participation. Following data collection, the quantitative data were analysed using descriptive statistics and the qualitative response were coded thematically. Not all 45 respondents answered all questions.

RESULTS

Orientation

The programme now runs online-only orientation sessions at the beginning of the academic year but in previous years, face-to-face orientation had also been provided. Although the importance of attending orientation is emphasised, not all students attend due to work commitments, and some students begin their studies part way through the academic year so missing the beginning of year orientation sessions. Twenty-five of the forty-five respondents had attended orientation. Of these, 11 had attended online and 14 had attended in person. The results suggest that those who attended orientation had mixed experiences and opinions of its usefulness and effectiveness (Figure 1).

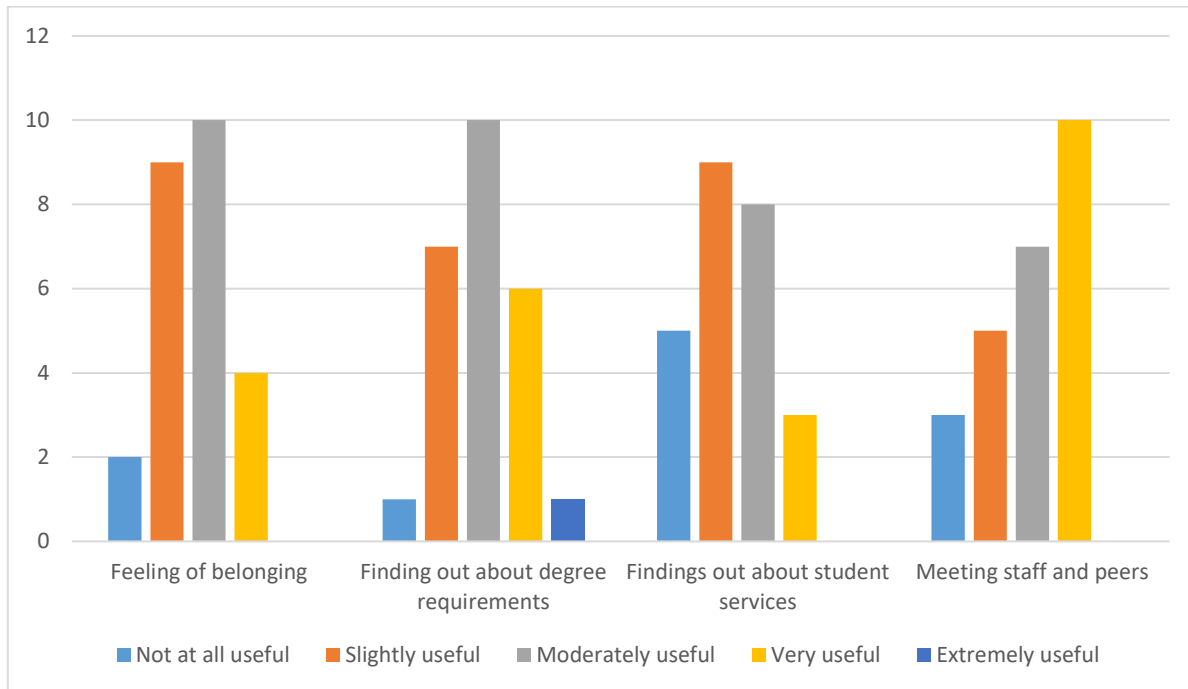


Figure 1: Students' opinions of orientation

Looking at the results in more detail, it seems that students considered orientation to be moderately useful for “finding out degree requirements” and “meeting staff and peers” but less so for encouraging a “feeling of belonging” and “finding out about student services”. This was confirmed to some extent by open text responses which emphasised the importance of orientation for gaining an impression of staff and fellow students, e.g.: *“It is helpful to have a face-to-face interaction with staff and peers rather 'seeing' each other through text chats and discussion boards.”* Other comments noted the low student participation in orientation, however, and that more emphasis on building connections with other students in the same location for mutual support and discussion would be valuable. Similarly, although the usefulness of online platforms was highlighted, students commented that it was difficult to form meaningful connections with others through these tools, desiring more personal interaction.

Students' self-evaluations of readiness for postgraduate distance learning

Students generally considered themselves reasonably well prepared to undertake PGD learning. Figure 2 indicates that they rated their “willingness and motivation to study” and their “study skills” as high, while their “time management” and “willingness to seek assistance and guidance” were rated lower.

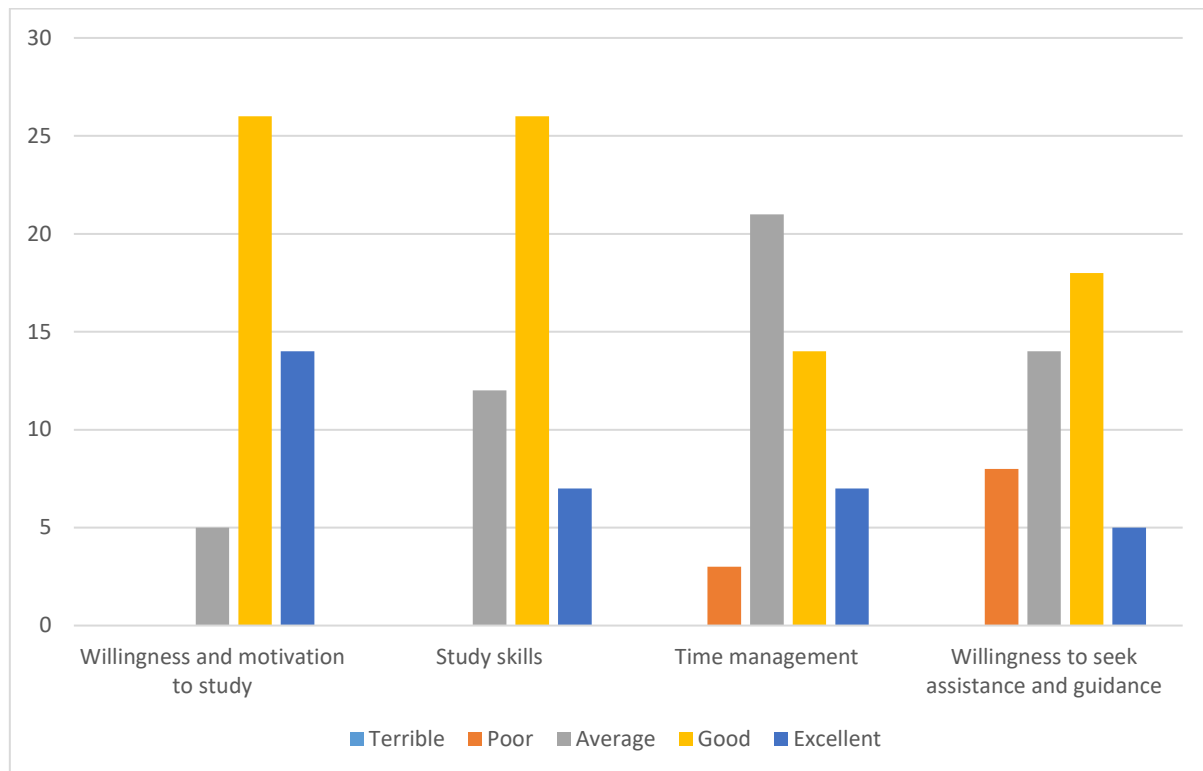


Figure 2: Students' self-evaluations of readiness for PGD learning

Comments relating to time management were common in the open-text responses. It was noted that while students' working experiences had sharpened their time management skills, scheduling time to study still represented a challenge especially when they were tired following a day at work.

Expectations

Students were asked about the extent to which the first course they had studied had matched their expectations, to gauge how successfully they had transitioned to PGD learning.

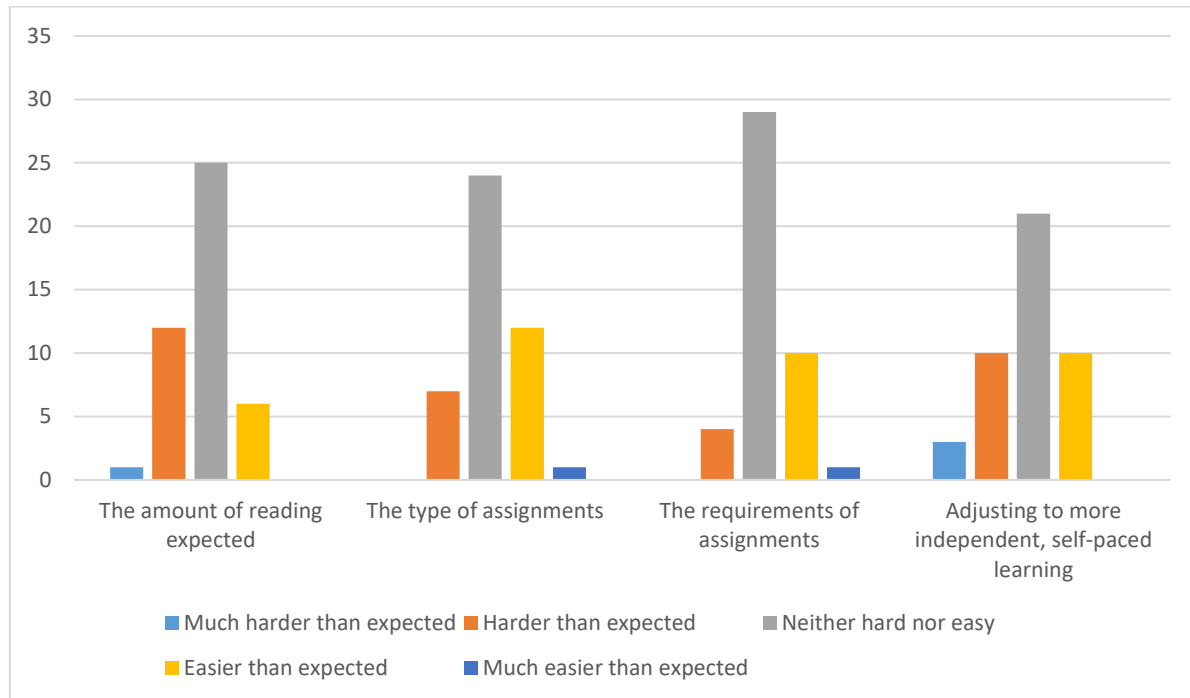


Figure 3: Students' expectations of PGD learning

Figure 3 suggests that there was some mismatch between the amount of reading required for the programme and what they had expected. This was intensified by the fact that the vast majority of respondents were in full-time jobs while studying. As one learner highlighted: *"There was a great deal of reading and I didn't always get to read everything as I was also working 40 hours."* The other notable result here is the mismatch between students' expectations of the amount of direct guidance from teaching staff they would receive and the extent to which they would be required to manage and direct their own learning. One respondent commented that it had been a: *"step up in terms of being less guided about our reading. Less explanation about what was expected in our assignments, than in undergraduate courses."* Another common theme coming through the open comments was some anxiety about returning to study after a hiatus of some years. While some found their path back to study smoother than anticipated, others struggled initially: *"It is a number of years since I did academic study and I had forgotten how time-consuming the reading is, as well as how careful one has to be when self-directed."* The results highlight the importance of managing students' expectations before they enter the programme.

Information provision

Figure 4 indicates that all sources of information relating to the respondents' learning were considered useful to some extent although there was more equivocation on those for writing assignments and where to go for additional advice.

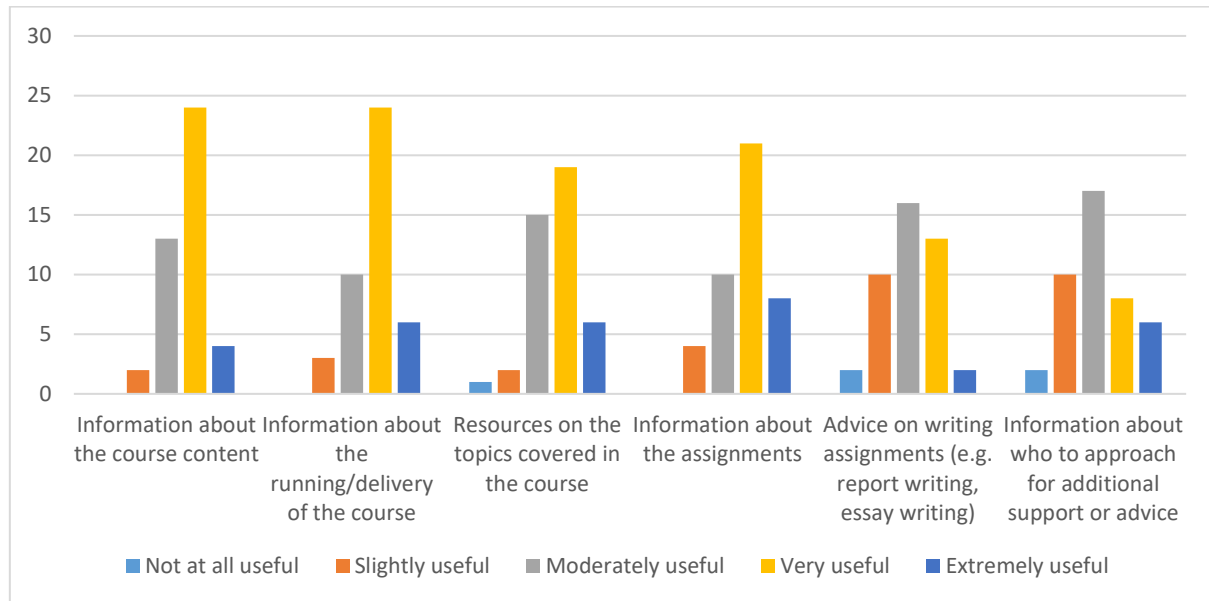


Figure 4: Students' opinions of information provision

Students seemed satisfied with the provision of information about course content, resources, delivery and assessment. The respondents indicated that most of the courses were well supported with information about readings, assignments and course content. For instance, it was noted that sample assignments and marking rubrics made it clear to learners what was required, and the VLE (virtual learning environment) Blackboard discussion boards offered opportunities for learners to receive clarification although comments noted a variability across courses and lecturers: *"This depended very much on the lecturer. Some wrote clear course and assignment guidelines, others did not. I would often ask clarifying questions which other students noted were useful."* In addition to the information supplied, course lecturers were also recognized as approachable and responsive

Online support

For an online distance programme, the quality and ease of use of the learning technologies and tools provided are of paramount importance. Figure 5 indicates that respondents generally found the platforms and online practices clear and relatively straightforward.

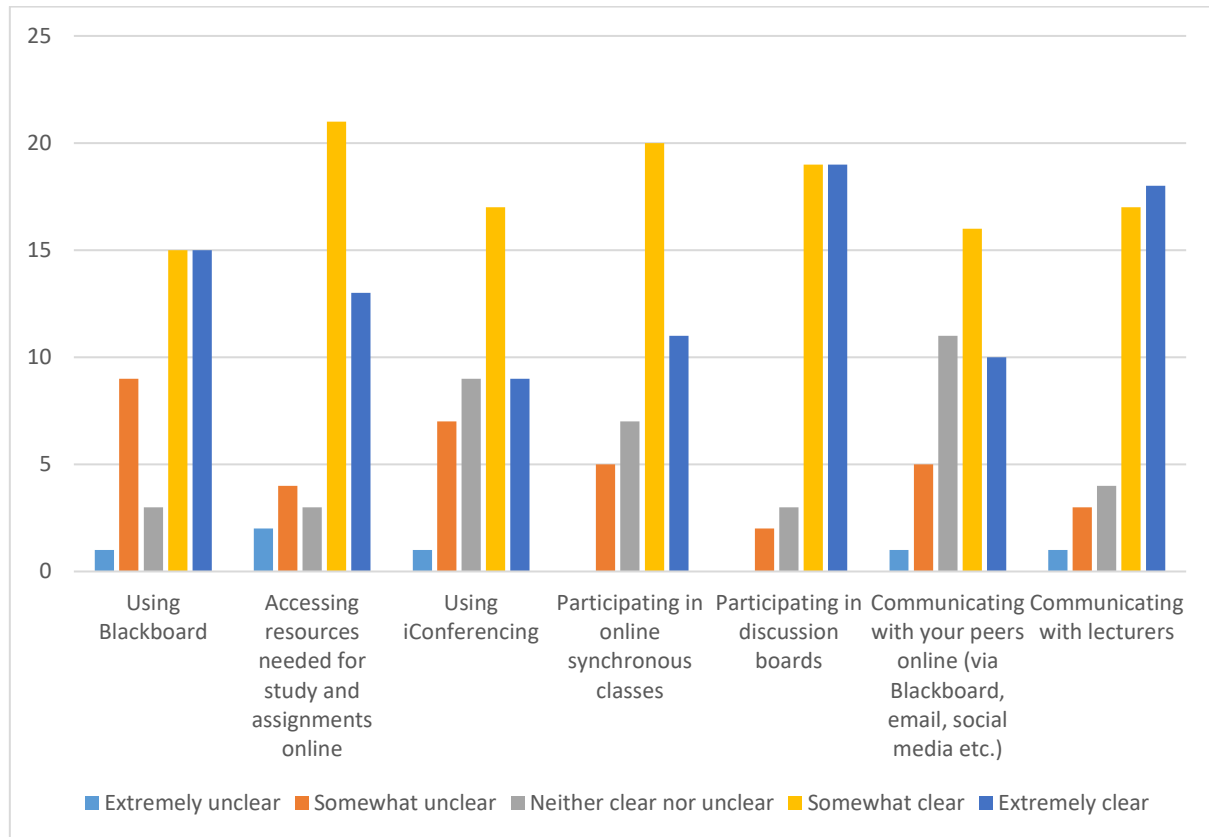


Figure 5: Students' opinions of online tools and technologies

Analysis of the open comments suggest that there were two main challenges relating to online learning technologies. First, 19 students indicated that the iConferencing platform used for synchronous online classes took time to get used to, even following attendance at a pre-course practice session. Although learners with previous experience of using iConferencing software found it “clear to use”, others struggled with technical issues and learning the software, as this respondent noted: *“I attended the [iConferencing] tutorial and read all the online information, loaded a new browser to avoid some of the problems with Safari etc. but I still found it really nerve wracking the first few weeks as it seemed to vary whether you just clicked on the link and went straight or whether you had to sign in on the second screen or click on the symbol on my task bar to open the session after clicking on the link. That is still the case, but I am more confident with [it] now.”* The second issue learners faced was with using Blackboard, often considered cumbersome and “clunky”. A common theme arising from the open comments was that the technologies took some time and practice to use effectively and hindered learners’ successful transition to some extent although they became familiar and easier with time.

Academic support

For those returning to study after a gap of some years, effective academic support is particularly crucial for successful transition. While not all learners availed themselves of the

opportunity to access all the sources of support available (Figure 6), Figure 7 indicates that most were considered supportive to one extent or another. It is notable that the support from lecturing staff was considered very helpful. In their open comments, respondents noted that it was straightforward to contact staff and that responses were timely. Again, though, this did vary to some extent by staff member/course. Some of the comments made links to issues raised in 4.3 about expectations and the need for distance students to be more proactive in managing their own learning and taking the initiative: *“I found there was plenty of support available if you were willing to use it. I had not studied for 20 years and I was apprehensive about online study in general and about the standards expected. I found there was plenty of assistance available if you asked.”*

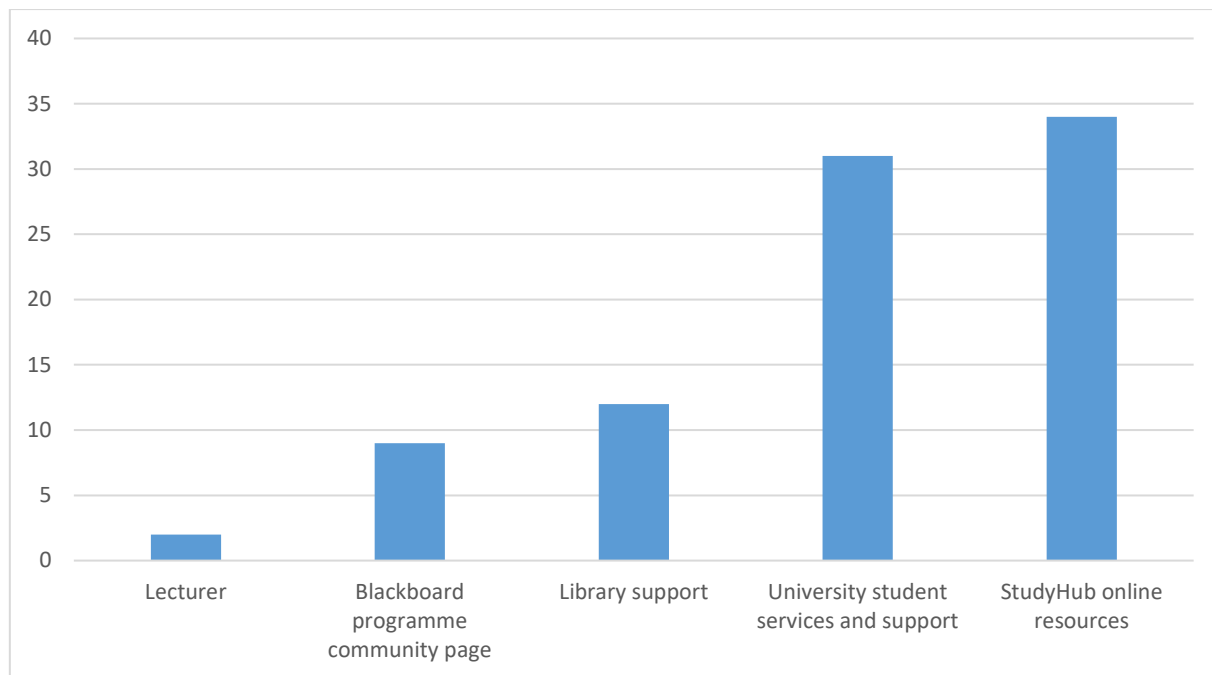


Figure 6: Sources of academic support not used

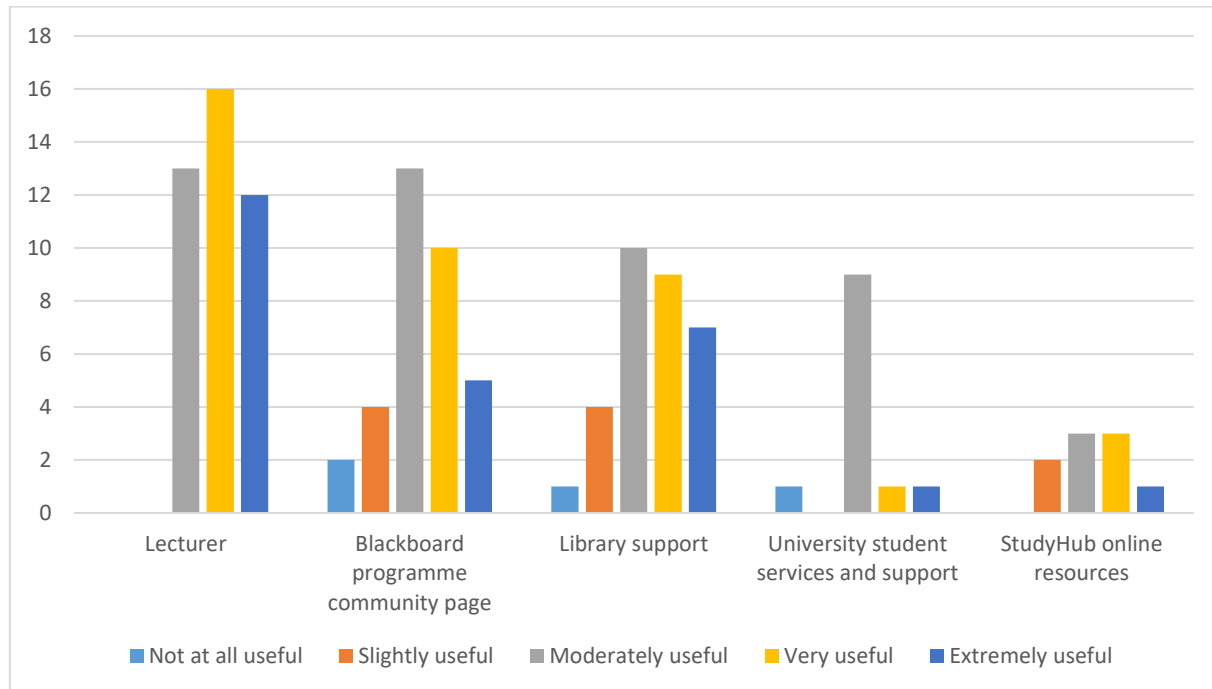


Figure 7: Students' opinions of academic support

Overall assessment

The final item on the questionnaire asked respondents to rate how successfully they had transitioned into the programme on a scale from 1 (with extreme difficulty) to 5 (very successfully). Table 1 indicates that a majority of respondents felt they had transitioned very successfully, with a mean of 4.15.

Scale number	1	2	3	4	5
Response (n)	1	3	7	6	22

Table 1: Students' overall evaluation of the success of their transition to PGD learning

Those who raised some concerns about their transition in the open comments, generally focused on two main issues that they felt had challenged their move into the programme, both of which relate to the distance mode of delivery. First, distance learning was a new experience for most and although there were pre-course preparatory sessions, it still took some time to adapt to a different form of learning. It was recognised that support such as that available from the library and technology services team was helpful in facilitating that transition. Second, students noted their experience of loneliness, especially when there were few fellow students with whom they could link up nearby. This meant that, for most students, distance learning was experienced as less enjoyable than face-to-face classes and could be a solitary experience: *"Postgraduate study is already an isolating experience - if you add in distance study, the programme needs to seriously consider how to generate an online community."*

DISCUSSION AND CONCLUSION

The survey responses gave the programme team some important feedback as we develop a new online orientation module. A few issues are worth highlighting as we move forward to improve our learners' transition into the programme and their online experiences. While some technical difficulties encountered with distance learning are perhaps inevitable and can be resolved through access to good IT support, the psychological and social issues are more difficult to address. The importance of managing expectations is clear. Students need to have access to clear guidance on the requirements and demands of the programme and of distance learning before they begin their studies. Although course information includes statements about the number of hours of study each course requires, a more informed understanding of the amount and type of reading, preparation and assignments involved would lead to fewer students experiencing a "culture shock", particularly those who studied at undergraduate level some years ago. Having said that, we also want to reassure learners that some initial anxiety and feeling of being overwhelmed is not unusual and that other students have been through a similar experience, survived and thrived in their studies. The results indicating some reluctance to seek advice and guidance (Figure 2) is of note and highlight the importance of emphasising that students need to manage themselves and their studies more proactively in the distance learning context and that they should take the initiative when unsure or confused. A degree of consistency between different courses such as assignment briefs, rubrics and discussion board protocols would also address some confusions or insecurities about requirements. Finally, the need to build online connections between learners must be a priority to support the networking of students with fellow professionals and build a community of practice, defined by Wenger (2011, p.1) as "a group of people who share a concern or a passion for something they do, and learn how to do it better as they interact regularly". Achieving this in a distance context is not easy and the programme team have tried a range of different approaches with varying degrees of success. We continue to experiment, particularly through the new online orientation module because we recognise that building a supportive cohort experience is an important contributor to students' positive experiences, while low interaction can exacerbate learners' nervousness during transition. In 2020, our core introductory course ran a group project that, while raising some logistical challenges for students learning online from different locations, also had the effect of improving group relationships and cohort affiliation. Finally, although respondents often commented that they missed face-to-face interactions with peers and lecturers, for one student there were advantages: "*It wasn't as much fun as going to classes, but I could do in my pjs.*"

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APPENDIX A

Successful Transition to Postgraduate Taught Distance Programmes – Survey of Postgraduate Taught Distance students.

Section 1: Demographics

Are you a current IST student or an alumnus?

Current	
Alumnus	

If current, which programme are you currently enrolled in?

Postgraduate certificate	
Postgraduate diploma	
Masters	

If alumnus, which programme did you graduate from?

Postgraduate certificate	
Postgraduate diploma	
Masters	

What were you doing before entering IST programme?

University student	
Gap year	
Worked up to 2 years	
Worked 3-5 years	
Worked more than 5 years	

What is your highest qualification?

Bachelor's degree	
-------------------	--

Honours degree	
Master's degree	
PhD	
Other, please state	

Section 2: Orientation

Did you attend orientation for the IST programme?

Yes, online	
Yes, in person	
No, I did not attend orientation	

If yes, how useful did you find the orientation you attended for introducing you to the IST programme in relation to the following aspects?

Scale: 1 Not at all useful – 5 Very useful

	1	2	3	4	5
Feeling of belonging					
Finding out degree requirements					
Finding out about student services					
Meeting staff and peers					

Please explain your responses.

--

Section 3: Self-evaluation

How would you evaluate yourself in the following areas before you took your first course on the IST programme?

Scale: 1 Very weak – 5 Very strong

	1	2	3	4	5
Willingness and motivation to study					
Study skills					
Time management					
Willingness to seek assistance and guidance					

Section 4: Expectations

Thinking back to the first course that you studied on the IST programme, to what extent did the following meet your expectations of postgraduate learning?

Scale: 1 much harder than expected – 5 much easier than expected

	1	2	3	4	5
The amount of reading expected					
The types of assignments					
The requirements of the assignments					
Adjusting to more independent, self-paced learning					

Please explain your responses.

Section 5: Learning support

How did you feel about the support provided, or that you were able to access, when you started your first course on the IST programme?

Scale: 1 Not at all useful – 5 Very useful

	1	2	3	4	5
Information about the course content					
Information about the running/delivery of the course					
Resources on the topics covered in the course					
Information about the assignments					
Advice on writing assignments (e.g. report writing, essay writing)					
Information about who to approach for additional support or advice					

Please explain your responses.

Section 6: Studying online at a distance

We'd now like to ask you some questions about studying online at a distance. Again, thinking back to the first course that you studied on the IST programme, how straightforward did you find the following?

Scale: 1 Not at all straightforward– 5 Very straightforward

	1	2	3	4	5
Using Blackboard					
Accessing resources needed for study and assignments online					
Using Saba/iConferencing					
Participating in online synchronous classes					
Participating in discussion boards					
Communicating with your peers online (via Blackboard, email, social media etc.)					
Communicating with lecturers					

Please explain your responses.

Section 7: University learning support

How helpful did you find the following sources of academic support when beginning your studies?

Scale: 1 Not at all helpful — 5 very helpful [N/A: did not use]

	1	2	3	4	5	N/A
Lecturer						
Blackboard Information Studies Community						
Library support						
University student services and support						
StudyHub online resources						
Others, please note						
Add more "Others"						

Section 8: Overall assessment

Overall, what is your assessment of how successfully you moved into the IST programme?

1 With extreme difficulty – 5 Very successfully

1	2	3	4	5
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Please add any comments, opinions on your initial experiences of the IST programme, including what you think would have helped your transition into either postgraduate study and/or online distance learning.

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New Methods, New Needs: Preparing Academic Library Practitioners to Address Ethical Issues Associated with Learning Analytics

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ABSTRACT

Academic libraries are participating in the collection and analysis of student data. Under the umbrella of *learning analytics*, these practices are directed toward developing an understanding of how libraries contribute to student learning, the educational experience, and efficient operations of academic institutions. Learning analytics, however, is loaded with ethical issues, which are complicated by privacy-related values espoused by library practitioners. This work-in-progress paper discusses emerging findings from a survey of academic library practitioners. The survey identifies what ethical issues practitioners associate with learning analytics and the degree to which they are prepared to address such issues.

ALISE RESEARCH TAXONOMY TOPICS

information privacy; big data; education; students; research methods; academic libraries

AUTHOR KEYWORDS

learning analytics; student privacy; higher education; academic libraries; research methods

INTRODUCTION

Data mining practices in higher education are now more than ever the norm and less the exception. Institutions are attempting to collect, analyze, and report “data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs” (Siemens, 2012, p. 4). These efforts are characterized as *learning analytics* practices. Institutions have used learning analytics to, inter alia, improve their admission yields, strategize to increase retention rates, personalize advising, predict student performance in courses, nudge students to just-in-time resources, and generally attempt to run highly bureaucratic and resource-

intensive institutions more effectively and efficiently (Damgaard & Nielsen, 2018; Essa & Ayad, 2012; Freitas et al., 2015; Jones, 2019a; Lane & Finsel, 2014; Lodge et al., 2018; Parry, 2011). While analyzing student data is nothing new for higher education, the granularity and sensitivity of these data increase as students became reliant on information technology infrastructures, applications, and devices to pursue higher education. Data about students' personal and academic behaviors and their academic performance may prove useful, but related data access, management, and use practices carry significant ethical burdens.

Learning analytics faces two notable challenges. First, researchers and practitioners alike face methodological questions. Chief among their concerns is determining whether or not learning analytics are efficacious and under what conditions; initial systematic reviews indicate weak results (Viberg et al., 2018). Second, the ethical conundrums facing learning analytics must be systematically and transparently addressed. Surveillance capitalism has raised serious concerns in broader society regarding data use and personal manipulation because of big data practices (West, 2017; Zuboff, 2015). If higher education continues to pursue learning analytics, then it must be willing—and fully able—to address concerns contextualized to education (Hartman-Caverly, 2019; Kumar et al., 2019).

The ethics of learning analytics are nothing but complicated, connecting various nodes, including privacy, autonomy and free will, intellectual property, justice and fairness, and democratic participation. These issues take on different considerations where academic libraries are concerned (Jones & Salo, 2018; Oakleaf, 2018). The values of the librarianship reject surveillance practices that potentially limit intellectual exploration and free speech, which are crucial parts of a higher education experience. If libraries are to uphold these values while using learning analytics, there may be a significant need for upskilling to meet these ethical challenges. This work-in-progress (WIP) paper describes a research and professional development project to improve ethical understanding of learning analytics.

To begin, we discuss academic library learning analytics and briefly outline existing ethical issues. Next, we describe our research questions and survey methodology. We end with an overview of emerging results from our project. The concluding remarks address both practitioner needs and how library and information science (LIS) students could be better educated to address the ethical challenges brought about by learning analytics.

LITERATURE REVIEW

Ethical issues for academic library practitioners.

Emerging library learning analytics literature suggests the ethical issues are especially wicked for library professionals, who espouse and staunchly defend privacy and intellectual freedom. Part of the challenge stems from a recognized privacy literacy gap. Participants at the “Library Values & Privacy in our National Digital Strategies” workshop stated:

[C]oncern that library staff, professionals, and administrators all fell short in terms of receiving proper training and education around issues of patron privacy. Literacy gaps persist on issues of privacy law, new technological threats, possible technical solutions,

and standard privacy best practices all threaten to limit the ability to sufficiently protect patron privacy. (Zimmer & Tijerina, 2018, p. 8)

Briney's (2019) review substantiates these comments. Her analysis of 54 library analytics articles "found many examples of inadequate data management practices, including extended data retention, a broad scope of data collection, insufficient anonymization, lack of informed consent, and sharing of patron-identified data" (Briney, 2019, p. 27).

A lack of methodological training.

With learning analytics, practitioners may lack ability to navigate ethically sticky methodological concerns. Citing Park (2004) and Dilevko (2007), Jones (2019b) argues that part of the ethics problem is that most LIS students receive little research methods training and are likely to be "under-skilled and unprepared to lead quantitatively rigorous learning analytics projects" (p. 421). Likewise, Robertshaw and Asher's (2019) meta-analysis of library learning analytics reported that, even though a statistically significant value is often found between library use or instruction and student GPA, "there is either no, or a very small, effect" (p. 90). So, while a correlation exists, the size of the correlation is minimal and practitioners overstate their claims.

Current library learning analytics training initiatives.

To date, we have not identified research projects or professional development initiatives with the primary aim to educate practitioners about library learning analytics ethics. However, there are initiatives that have sought to raise professional consciousness about these concerns. For instance, the aforementioned "Library Values & Privacy in our National Digital Strategies" workshop included targeted conversations about library learning analytics. The "National Web Privacy Forum: Achieving Privacy in the Age of Analytics" discussed data mining, analytics, and privacy; outcomes included a white paper (Young, Mannheimer, et al., 2019) and an action handbook (Young, Clark, et al., 2019). And, the "Library Integration in Institutional Learning Analytics" (Oakleaf, 2018) capacity-building project identified privacy as an "obstacle" for learning analytics about which practitioners need further education.

METHODS

Research project and questions.

The research described herein is part of a multi-year, grant-funded research and professional development project on learning analytics and ethics. The planned outcomes of the project include a training program (online and face-to-face) as well as resources to enable others to offer similar training. The targeted populations academic library practitioners.

To inform our professional development training program, we fielded a practitioner-oriented survey. The survey is informed by the following research questions:

RQ.1: What ethical issues do practitioners perceive to be the most pressing for library learning analytics?

RQ.2: Are practitioners prepared to handle research and data ethics issues associated with library learning analytics?

Survey methodology.

As this is a WIP paper, the methodology can only be partially described. To begin, we drafted the survey after conducting an informative scan of the literature, both related to learning analytics, generally, and library learning analytics, specifically. To validate the survey before distribution, we conducted cognitive interviewing (Willis & Artino, 2013) to determine the degree to which targeted subjects make sense of questions and themes as researchers intend and expect (Collins, 2003). We completed four cognitive interviews with academic library practitioners who fit within our sampling criteria. We ran interviews via Zoom, a web conferencing tool, recorded the audio for analysis and took notes using an interview protocol to elicit feedback from participants. Upon completion of the interviews, we modified the survey and began distribution using the Qualtrics system. The survey was determined to be exempt by our respective institution's institutional review board.

The survey was posted to a range of academic library practitioner listservs (e.g., assessment, library learning analytics, technology). To protect against bots taking the survey, which is a common issue with listserv distributions, a Captcha screener question was included along with other screeners to ensure the respondent was 1) not a bot and 2) met the sample requirements. Distribution began in early March 2020; data collection was ongoing at the time of this writing (mid-March 2020). We verified 93 respondents who had fully completed the survey. Data reported below include select descriptive statistics; open-ended responses have not yet been analyzed.

EMERGING RESULTS

Demographics.

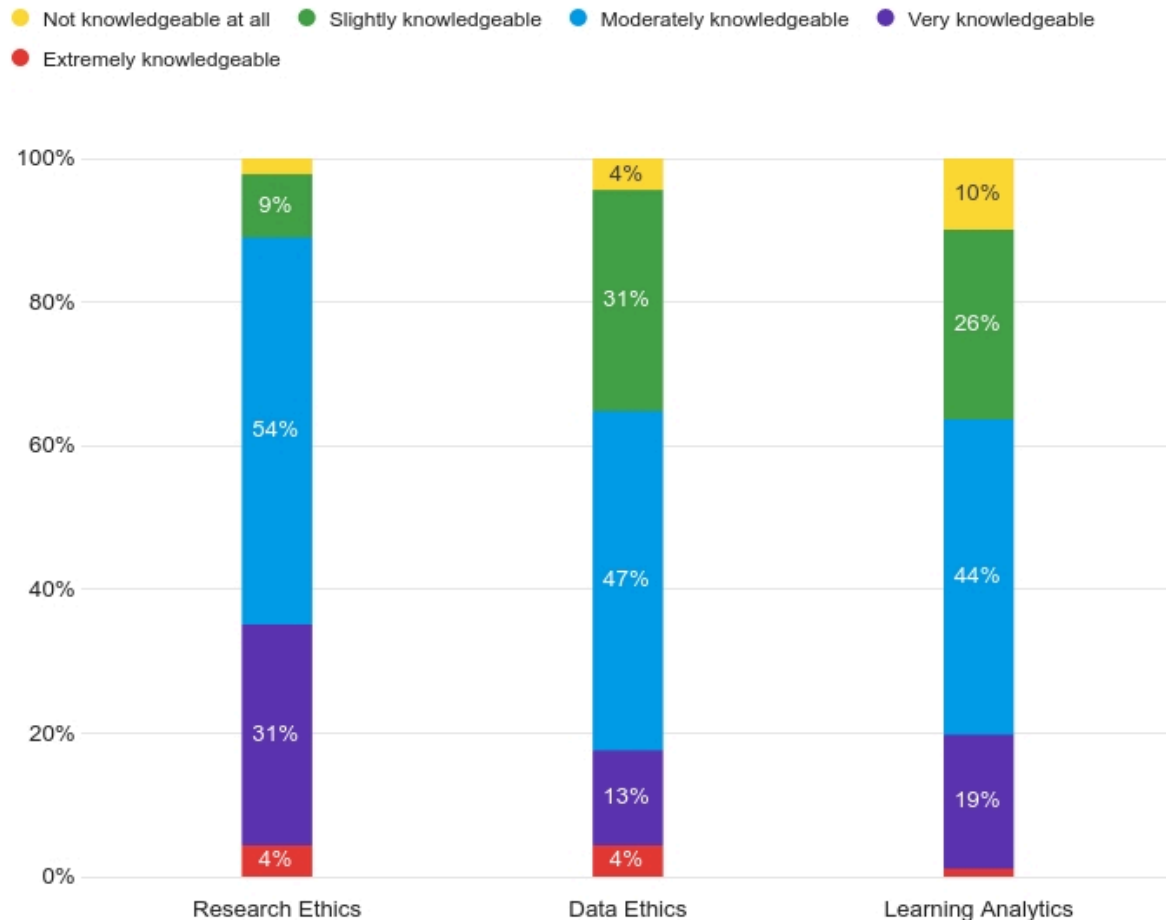
Institutional, professional, academic, and personal demographics indicate a fairly diverse respondent pool. Respondents primarily work at master's (21%) and doctoral (67%) Carnegie classified institutions. Respondents are mostly faculty (61%). The professional experience of the respondents was mixed with the majority (30%) reporting 5-9 years of experience, with 10-14 years of experience following (24%). A vast majority (90%) of respondents had a master's degree, and 76 (93%) of those respondents reported a master's degree in LIS; 15 respondents held an LIS doctoral degree. 63% identify as female and 23% as male. Only 5% of respondents indicated a non-binary gender identification.

Knowledge of learning analytics, research ethics, data ethics.

The survey asked respondents to rate their knowledge of learning analytics, research ethics, and data ethics, respectively. Across all three measures, most respondents signaled they felt moderately knowledgeable. More respondents indicated a higher degree of knowledge (moderately knowledgeable, very knowledgeable) for research ethics (see Figure 1).

Figure 1

Self-reported knowledge of learning analytics, research ethics, and data ethics



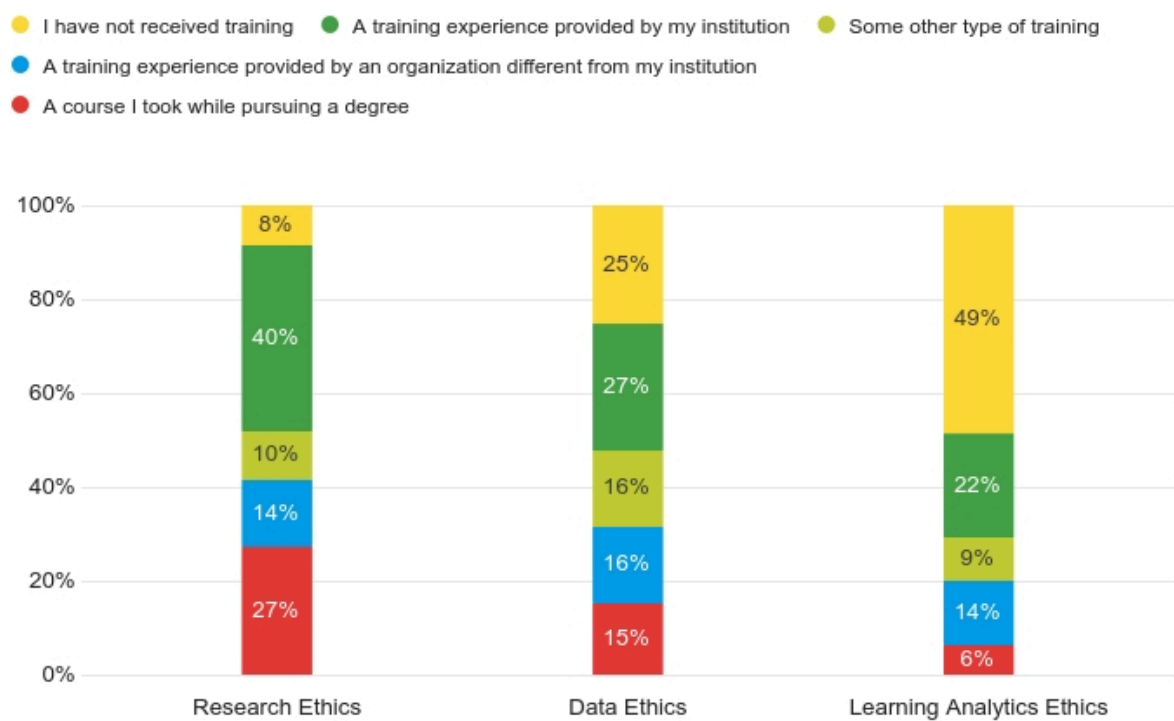
Self-reported knowledge can be over- or under-estimated so we attempted to establish a baseline against a standard definition. Participants defined learning analytics, research ethics, and data ethics and then asked them to rate the similarity between their definition and one we provided. Indicated similarity (very or somewhat similar) was more than 80% across all three definitions.

Preparation to address ethical issues.

Comparatively, there is a notable difference in ethics training for research, data, and learning analytics. Respondents indicated the sources of their research ethics training were

primarily a course they took while pursuing a degree or a training experience provided by their institution. The percentage of responses for both of these categories shrunk when examining ethics training for data and learning analytics (see Figure 2). Also notable is that 49% of respondents had not received any training for learning analytics ethics; only 6% reported receiving training in a course while pursuing a degree.

Figure 2
Sources of ethics training for research, data, and learning analytics



We asked respondents if their research, data, or learning analytics ethics training had prepared them to address ethical issues associated with learning analytics. The data were consistent. A majority of respondents strongly or somewhat agreed their training—whatever the type—had prepared them to address learning analytics and related ethical issues (see Table 1); however, there was a slight uptick in the percentage of respondents who somewhat disagreed with the statement where data ethics and learning analytics ethics training were concerned.

Table 1

Agreement that training prepared them to address ethical issues associated with learning analytics

Type of Training	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Research Ethics Training	19%	51%	13%	12%	5%
Data Ethics Training	17%	46%	13%	21%	3%
Learning Analytics Ethics Training	11%	53%	13%	24%	0%

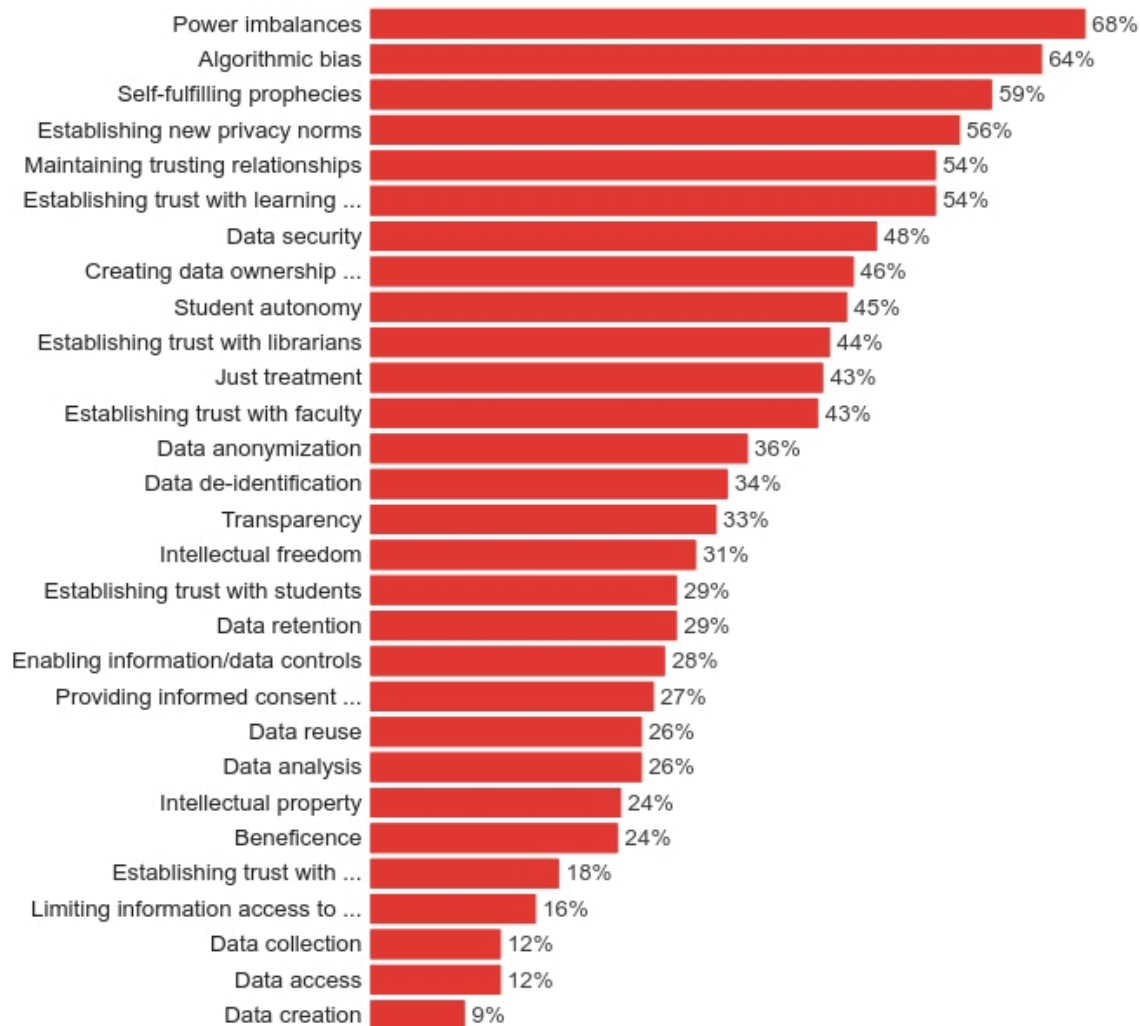
Even though respondents indicated their training has prepared them, they also want more training. 88% responded they somewhat or strongly agree they need learning opportunities to better understand ethical issues associated with learning analytics. Examining these responses by job classification (e.g., staff, faculty, and administration) and whether the respondent has an MLIS degree, we see no major differences except that 8% of administration respondents strongly disagree that they need more training.

Ethical issues.

The data confirm that ethical issues abound with learning analytics. 90% of respondents indicated they somewhat or strongly agreed learning analytics raises ethical issues. To probe what those issues may be, we presented respondents with 29 ethical and practical learning analytics issues identified in our literature search grouped by four themes: privacy, data ethics, data management, and trust. The top five ethical issues respondents identified as being very challenging for high education were: power imbalances (68%), algorithmic biases (64%), self-fulfilling prophecies (59%), establishing new privacy norms (56%), and maintaining trusting relationships (54%) (see Figure 3 for all issues).

Figure 3

Indicating very challenging issues for higher education institutions



62% of respondents noted that they had encountered a data ethics issue as part of their job responsibilities. When asked specifically about learning analytics, nearly 42% of respondents indicated they had participated in a library learning analytics project; and among those respondents, about 40% said they encountered an ethical issue. 53% said they were able to address the issue in a way that partially or fully resolved it. We hypothesize the ability to address an ethics issues may be due to practical and ethical skills, but also due to institutional culture. To get at the latter, we asked respondents if they felt empowered to address learning analytics ethical issues, to which 53% of respondents indicated they strongly or somewhat agreed with the statement.

CONCLUDING REMARKS

Initial findings have helped to identify ethical issues practitioners should consider when pursuing library learning analytics (RQ.1) and may help prioritize which issues need more focus and resources. Findings also help fill in the knowledge gap regarding whether practitioners feel prepared to handle ethical issues associated with library learning analytics (RQ.2). While the data indicate that existing research and data ethics training have helped prepare them, they perceive the need for specific training for ethical issues that learning analytics presents.

The motivation for this research was to inform the creation of a library practitioner professional development program. The findings support our initial claim that training is needed and that there are specific areas where our ethics training should focus. Nonetheless, respondents indicated the need for training may not be as pressing as we once believed given they perceived their previous ethics training as sufficient. Instead of composing the training as something separate and unique from research ethics, we will focus on particular areas where ethics training is unique to learning analytics and augment existing data and research ethics training.

We also discovered a potential gap in LIS education. If it is the case—as it seems to be—that students entering into academic librarianship need to be prepared for library learning analytics, then the type of ethics training they require needs rethinking. Beyond traditional research ethics training, students need to encounter ethical issues associated with information and data ethics courses, such as algorithmic bias and fairness. LIS programs should reconsider the learning outcomes and experiences associated with courses that address research methods, academic librarianship (including management), and information policy and ethics.

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Community-Led Librarianship Demands an Asset-Based Community Development Approach

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ABSTRACT

For the public librarian, archivist, or curator, asset-based community development (ABCD) is many things: a professional practice, a research method, a partnership-building vehicle, and an important tool with which to support the development of healthy, vibrant and sustainable communities. ABCD is the opposite of, but complement to, needs assessment studies. In the latter, emphasis is placed on what's lacking in a community, its deficits, what it needs; rather than what it already has, its assets. ABCD is premised upon the belief that all communities contain a wealth of resources: in the people who live there, in their associations, clubs and institutions, as well as the businesses they run and frequent. This paper introduces the value of a recently offered graduate course in ABCD for students with interests in the new community-led librarianship. It is also a course, that I hope, contributes to contemporary conversations about a re-envisioned LIS curriculum, and responds to the pressures I have experienced firsthand in both the community and in the classroom. The phrase "our interconnected world" is interpreted here as that world beyond the four walls of the library and into which public librarians find themselves embedded in unfamiliar territory. These are communities at a far remove from the status quo. At the heart of this work is a commitment to social justice through community development that places communities, their members, and their assets at the centre, and the library professional on the sidelines in a capacity-building role and as a useful source of bridging social capital.

ALISE RESEARCH TAXONOMY TOPICS

LIS education, curriculum, research methods, pedagogy, community engagement, community-led services, public libraries, social justice, specific populations

AUTHOR KEYWORDS

asset-based community development

INTRODUCTION

This paper introduces the value of a graduate course in asset-based community development (ABCD) targeted to GLAM students with interests in public facing service work. The course responds to a number of contemporary pedagogical issues, including: what to do about research methods (Luo 2017; Mandel 2017), how to deliver course content within a critical

pedagogy that supports experiential learning (Brzozowski & Roy 2012; Bloomquist 2015; Hartel et al. 2017); and, how to contextualize the development and translation of professional competencies beyond traditional institutional settings and positions (Turner & Gorichanaz 2016). It also makes explicit the connection between at-risk jurisdictional knowledge and today's professional work (Ibid.).

The course "Community-Asset Building" delivered to iSchool students at the University of Toronto since 2019 has a deep taproot in the field's rich tradition of social justice work through community-based and praxis-inspired research, pedagogies, and professional practices. Its most recent antecedents can be found in the establishment—during the revolutionary times of the 1960s and 1970s—of ALA's SRRT in 1969, and the short-lived, but no less radical, Institute of the Floating Librarian (Penland 1970). Over the intervening decades, this progressive sector of the field has flourished with each generation of educators, researchers, practitioners and students contributing to the struggle for social justice. Some examples include: the principles underpinning the community informatics movement (Clement et al., 2012; Gurstein 2007; Mehra 2005), the introduction of service learning into LIS (Yontz & McCook 2003; Mehra 2005), Mehra & Srinivasan's Library-Community Framework for Community Action (2007); the growth of critical literacy studies (Hall 2010); and the establishment of the Progressive Librarian's Guild in 1990 and Library Juice Press in 2006. Canada's experimental model for community-led libraries also belongs here (Working Together Project 2008).

Taken together, all share commitments to critical policy interventions that work to surface the role of power in the unequitable distribution of society's finite resources, including information; and, the emancipatory potential of critical literacy as inspired by activist educators like Paulo Friere and John Dewey (Hall, 162). Finally, Kreps et al.'s definition of information literacy provides a centering rationale for LIS students in a course on ABCD: "information literacy and the knowledge of information management can help engage people on society's margin to become aware of, and resist, the corporate-politics-media nexus, empower themselves via active involvement in the democratic process, and take action to improve their marginalizing social and economic conditions" (as cited in Mehra & Srinivasan 2007, 124).

The remainder of this paper is organized into the following sections: (1) introduction to ABCD, (2) forces that inspired the course; (3) outline of the course's pedagogical goals and learning outcomes; (4) reflection on the value of traditional but at-risk jurisdictional knowledge for ABCD; and (5) concluding remarks.

(1) WHAT IS ASSET-BASED COMMUNITY DEVELOPMENT?

As described by Phillips & Pittman, "community development has been around for as long as there have been communities" (2009, 3), however, community development as a bona-fide field of scholarly research and professional practice emerged only after WWII, in response to the reconstruction needs of Europe, and the multiple and complex societal challenges facing newly decolonized nations in the Global South (Ibid). In both instances, international support and resources (human, technological, etc.) were needed to create conditions conducive to economic development and stabilization. Some of the key features of this approach include: a singular focus on needs identification and the development of programs to meet and/or alleviate those needs; a recognition of the association between community development and economic development; and, the goal of working with the actual communities themselves for the purpose

of knowledge mobilization leading ultimately to community independence and autonomy (Haines 2009, 39).

The ABCD model, developed by researchers at Northwestern University's Institute for Policy Development, Professors John Kretzman and John McKnight (1993) departs from the above model in its focus on community assets as opposed to community needs—its strengths rather than its weaknesses (Ibid., 4-5; Haines 2009, 38-39; Mathie & Cunningham 2003). In this way, community members are transformed from passive and individual recipients of government programs, to a collective of empowered citizens, problem solvers, and advocates for their community. Where needs-based models lay down a mental-map of poor neighbourhoods as lacking, troubled, and problematic, an asset-based approach surfaces the capacities already inherent in the people, associations, and institutions of the community. In the words of Kretzman & McKnight,

Once this guide to capacities has replaced the old one containing only needs and deficiencies, the regenerating community can begin to assemble its strengths into new combinations, new structures of opportunity, new sources of income and control, and new possibilities for production (1996, 25).

From a public policy perspective, public service professionals can play an essential part in this work if they are willing to suspend their role as “expert” in order to engage in research and community development that is truly community-led, participatory, and action oriented. Being able to listen, to critically assess one's own subjectivity, and relinquish control, are some of the attributes necessary for this work.

Finally, since the publication of Kretzman & McKnight's (1993) *Building Communities from the Inside Out: A Path Toward Finding and Mobilizing a Community's Assets*, ABCD as a community development practice has been adopted around the world and has been expanded to account for newer theorizations around concepts like social capital, strong- and weak-ties, and community-led approaches to traditional public services in like health care (Harrison et al., 2019), heritage conservation (Gitty 2017), social work (Sinding et al. 2015), and in the community-led library model gaining traction in Canada and the United Kingdom (Pateman & Willment 2013).

(2) INSPIRATION FOR THE COURSE

This course was the result of a confluence of factors which have challenged me, as a researcher, educator and former librarian, to re-envision my curricula. Foremost among these are today's students, the majority of whom demonstrate a fierce commitment to, and activist orientation towards, issues of social justice, inclusion and equity, and they want the public library, archive or museum to be the place from which they can contribute to positive social change. These students are also vocal about wanting more experiential learning opportunities resulting in concrete deliverables suitable for a professional portfolio.

The course is also a response to results of my own Canada-wide study into library labor (Stevenson 2020) that revealed, on the one hand, a universal enthusiasm for community-led librarianship, as captured in the response of one CEO to a question about the future of professional work, “70% of our librarians' time will be spent out in the community” (Ibid., 48); and, on the other hand, uncertainty about what these librarians will actually be doing beyond

traditional library outreach which, according to the community-led model, is not the same thing (Working Together 2008, 14-16). Indeed, for one new librarian engaged in this work, the way forward was anything but clear, *"Like, what is the point of this? Why am I doing this? Why am I here? Why is the library paying me a high salary to have a cup of coffee and play cribbage with this person, right? What is the point of this work?"* (personal communication, 2015).

Finally, I sensed that our students lacked the analytic tools and theoretical frames necessary to critically interpret contemporary policy debates around problems like the wealth gap or social exclusion/inequality for the purpose of mounting effective public library interventions.

(3) COURSE OUTLINE, PEDAGOGICAL GOALS, AND LEARNING OUTCOMES

The course is designed as a 6-week workshop where teams of 4 select a neighborhood that has been identified as a Neighborhood Improvement Area (NIA). In 2014, the city's Center for Research on Inner City Health assessed Toronto's 140 neighborhoods across 5 domains of wellbeing: physical surroundings, economic opportunities, healthy lives, social development, and participation in civic-decision making. They also measured factors like unemployment, high school graduation, walkability, access to community space, access to healthy food, and air quality (TSNS 2020 n.d., 10). City benchmarks were then established and neighbourhoods that fell beneath the benchmarks were designated as NIAs and prioritized for funding and support. The work of the student teams is to conduct a community asset mapping exercise within their NIA and reflect on the efficacy of the approach for community development and its potential value for their future work as public librarian/archivist/ museologist.

The course's learning goals are achieved through desk research, weekly readings, written reflections, and hands-on research experiences. By the end of the course, students have: (a) increased their knowledge of the challenges and rewards associated with naturalistic inquiry; (b) developed a critical policy orientation towards questions about institutionalized inequality at the municipal level; and (c) created a community asset map for inclusion in their professional portfolio. Details of each are described below.

- a) Students engage with two qualitative research methods. First, the field of urban geography's practice of observational walking as a means of data gathering is introduced. Urban geographers Pierce and Lawhon define this method "as a self-conscious, reflective project of wandering around to better understand an area's physical context, social context, and the spatial practices of its residents" (2015, 656). Each team member visits the neighborhood at a different time of day and day of the week. Following these walks, students produce a team report and presentation of what and who they saw (or didn't see), paying attention to the experiences of their five senses. Student presentations have included videos, maps and photographs as well as audio soundscapes. As part of their "walk-about", students often gravitate towards the small family restaurants specializing in their home country cuisine, a hallmark of the city's NIAs.

Second, teams engage in participant observation at a community event of their choosing. They are encouraged to "move beyond their comfort zones", but can choose to participate in a local library's programming. Before the event, students familiarize themselves with the method and develop plans for how they will gain access the event, present themselves, and capture what they observe and experience. Students write up their field notes in a report and debrief the experience in class.

Beyond library programs (knitting, baby-time, and a spelling bee), students have demonstrated great initiative in their choice of community event, e.g.,

- a tenants' association summit organized by a tenants' union to find ways to mobilize against renovictions, volatile landlords, skyrocketing rents and, for some, ways to organize a tenants' association in buildings without one;
- a Syrian children's choir practice and final performance;
- a community screening of a movie about the history of the neighbourhood followed by a panel featuring representatives from municipal government, a development corporation and community leaders on questions from the audience about gentrification, gun violence and unemployment;
- community meal programs (as volunteers and diners);
- A bingo night at a local hall.

Both the walk-about and participant observation assignments present students with a range of problems to solve ensuring a rich learning experience. For example, students often express anxiety before entering a community about conspicuousness, and about the impact their own positionality will have on their ability to observe. The following student reflection is representative,

“This is what I worry will be my biggest challenge in engaging in participant observation and my walk-about: I am *exactly* the person that NIA 85 is gentrifying for (an able-bodied, university-educated queer white millennial in the arts), and I look like it. I am concerned that while I may do my best to be invisible, or integrated into the community, my own biases will impact what I notice about NIA 85, or how NIA 85 presents itself to me” (Jamie, not their real name)

Inevitably, student concerns open directly into conversations about research ethics as per the following student's revelation while engaged in one of the readings,

“While I sat on the bus, reading Moretti's chapter on *Walking*, I chuckled quietly to myself as I read her first line “Read this chapter on the bus.” (p.92). I instinctively looked around to see if anyone was looking at me. Conscious of who was looking or listening to me, I wondered how I would feel if someone was observing my behavior and writing about it, like I am about to do for my upcoming fieldwork. It made me question issues of ethics, consent and privacy, even in public spaces” (Faraneh, not their real name).

Finally, teams are responsible for producing a detailed plan for conducting a community survey or focus group which they submit [but do not undertake due to current time constraints] with their asset map.

- b) Before entering the community, students research their NIA. The city's website provides neighborhood profiles featuring maps and social demographic information such as ethnicity, age, race, housing, poverty, income, language and country of origin. Each data point is compared with the city's average highlighting relative impoverishment. For NIAs, the picture

that emerges is of an inner-city neighborhood, or one at the industrial margins of the city whose residents are members of a racialized community. People live alone or in large family groups in high-rise apartments. The majority live at or below the poverty line. In addition to the municipal website, students consult the city archive (for a history of the neighborhood), social media (for community groups), policing reports, and the mainstream media for any coverage the neighbourhood has received.

- c) In addition to LIS scholarship, the field of urban geography provides students with the analytic tools to critically interrogate life at the margins and the forces that keep people down but that might also be subverted towards a more emancipatory project. Of particular note: David Harvey's theory of accumulation by dispossession to describe the impact of gentrification on the city's poor (2008); Ash Amin's unpacking of the issue of social exclusion as a source of legitimation for the neoliberal project (2006); and, Paul Kitchen's work on the smart city as a means of social transformation (2015).
- d) The penultimate assignment is the asset map and plan for community input through a survey or focus group. The asset map has taken many forms. Students have produced hand-crafted interactive maps with moveable Velcro assets, three-dimensional models built of Lego, and digitally interactive maps with photographs, video clips and live links to existing services and assets. Assets identified by students tend to be community amenities, groups, public services and small businesses, public art and green spaces, as well as community leaders.

(4) JURISDICTIONAL KNOWLEDGE AND PROFESSIONAL COMMITMENTS REFRAMED

As an educator and researcher in the area of public librarianship, I have found myself despairing at the attitudes of the public library leaders I encountered on my cross-Canada study into the changing nature of work in large urban libraries. Many dismissed our Masters library programs for focusing on traditional and outdated competencies like reference, collections development, and cataloguing (Stevenson 2020, 46-47). Certainly, their enthusiasm for community-embedded librarians was a positive development, but negation of jurisdictional knowledge without any attempts to reframe it was concerning. The missing link, I have decided, is to be found in the field's historically continuous commitment to literacy and specifically critical literacy (across modalities). A course in ABCD exposes students to a participatory action research methodology and a philosophy with which to enter communities and make valuable contributions as information intermediaries, translators, conduits and organizers of the community's knowledge in service to a social project animated by the assets of that community. Students will need empathetic and sophisticated reference skills, the ability to collect community-generated content, and expertise in knowledge management if they are to be a help and not an impediment to the change their communities want to be.

(5) CONCLUDING REMARKS

There is nothing wholly new about exposing MLIS students to community development in general and ABCD in particular. Yet, given its methodological requirements and its spatial and temporal specificity, it takes on a different meaning with each successive wave of students.

Students bring their own generation's understandings and personal experiences to the work of interpreting and responding to contemporary manifestations of social injustice. This course provides future librarians with access to their chosen field's proud history of humanitarian work, reframes the value place of jurisdictional knowledge, and provides them with a taste of the kinds of real-world challenges associated with puzzling through a community development project that privileges the identification of a community's assets despite its designation --from above-- as impoverished and in need of improvement.

Given the content and learning goals of this course, 6 weeks is not enough time. It is the hope of this instructor to turn it into a year-long service learning course.

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School Librarian's Questions about Remote Instruction: Opportunities for LIS Educators

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ABSTRACT

Many school librarians turned to social media during the COVID-19 pandemic as a forum for interacting with other educators who were experiencing remote instruction for the first time. These social networks illuminated that many school librarians were prepared to work remotely, though they had many questions related to digitizing learning, digital policy, and digital ethics. This study uses discourse analysis to analyze the questions posed by school librarians on social media related to remote instruction to understand more about areas in which they sought support. The findings were compared with the current LIS curriculum to identify alignment with school library curriculum.

ALISE RESEARCH TAXONOMY TOPICS

school library; curriculum; online learning

AUTHOR KEYWORDS

school librarians; social media; curriculum, remote learning

INTRODUCTION

The rapid evolution of the COVID-19 pandemic led many public schools to quickly change their teaching delivery methods. The response from within each school and district varied, leading many school librarians to join social networking groups where they could learn from each other and find support. This paper explores the discourse that occurred within these social networking groups to understand how school librarians responded, what they knew about teaching remotely already, and what they wanted to learn. As LIS educators of school librarians, this information is useful to understand gaps in knowledge that school librarians have, particularly related to online teaching and learning, digital ethics and digital policy.

Background

In fall of 2019, the SARS-CoV-2 coronavirus emerged in Wuhan, China (Anderson et al., 2020). Within several months, a global health emergency was issued as cases of SARS-CoV-2

spread internationally. The virus began to be referred to as COVID-19. By March 11, 2020, the World Health Organization (2020) had classified COVID-19 as a pandemic. Shortly after, the White House announced a program called “15 Days to Slow the Spread” which recommended social distancing, including work from home, travel restrictions and limited social gatherings, as a strategy for limiting the spread of COVID-19 amongst the community. In response, many school districts closed their schools and began emergency remote instruction where teachers continued to teach students through physical distance. Many educators turned to social media to ask questions, learn about what others were doing and to share resources.

Literature Review

This small study draws on the concept of question theory, which assumes that questions are an extension of curiosity and the beginning of a quest for new knowledge (Flammer, 1981). Asking informational questions can help a person to attain their goals as a person determines what to ask, and where to ask it. Ram (1991) explained that question-driven information seeking is the basis for learning. More specifically, when a person poses a question, they are essentially articulating a personal interest in developing knowledge in that area. Consequently, question generation and question answering is an attempt for a person to gain more understanding about the world. Ram suggested that the person with a question draws from their own prior experiences to form the question, then poses the questions to seek explanations. In addition, a question is driven by a person’s goals and interests. Therefore, questions play an essential role in understanding and learning.

Social media provides an opportunity to seek answers to questions from a diverse network of connections. Research in this area often refers to the concept of social capital, in that social networks allow users to tap into additional resources for personal or professional gains (Brooks et al, 2014; Gray et al, 2012; Ellison et al., 2013). Lampe et al. (2012) explained that professionals will use social media for interactions well-beyond simply socializing. They found that many Facebook users used the social networking platform as a source for information seeking and building social capital. Gray et al. (2012) also found that social media was used for informational and resource support. Many users will ask questions on Facebook when seeking explanations beyond what they are able to find within their local networks.

Professionals who participate in social media may see it as a safe place of gathering that is unrelated to their evaluation as educators (Veletsianos, 2013). Veletsianos explained that scholarly practices are enacted openly in social media, making them valuable for understanding the subculture of specific professional populations. For example, scholars who use social media do so to connect to others in their field of study, to crowdsource or to share aspects of their professional life that are usually private. Breeding (2009) also explained that social networks are important for career mobility and development for professionals. For librarians specifically, social networks like Facebook, Twitter and LinkedIn, provide librarians with a place to gather without having to be together in person.

For teachers and other public school educators, social networks serve as a platform that can connect educators with others who perform similar jobs, but have different building cultures, policies and practices. While educators may have social networks that connect them with people they know in person from state professional associations or other local communities of practice, educators will also partake in social networks with other educators that they do not know. Baker-Doyle (2011) explained that these social networks are particularly important for crowdsourcing and finding answers to specific problems. In addition, social networks provide

significant support for educators, particularly in times of crisis. Similarly, Forte et al. (2012) suggested that social media networks could be useful for understanding more about the restrictions and limitations that educators may experience within their school systems, and how they are equipped to work within these systems.

Social media is also used to share information during times of crisis. De Araujo et al. (2018) explained that social media was essential for enabling collaboration and cooperation during past pandemics, like the Zika or H1N1 outbreaks. Specifically, social media, like Facebook or Twitter, serve as a fast and free way for professionals to share information globally. During pandemics, this is especially significant as some educators in the world may be experiencing the pandemic at different times. Al-garadi et al (2016) found that significant information is shared in social networks that make it possible to track pandemics, as well as practices that occurred during the pandemic. For example, in the COVID-19 pandemic, educators in China were able to share their experiences with social distancing on social media to support educators in America who experienced social distancing several months later.

Method

As we read and participated in social networks for school librarians who were preparing for remote instruction during COVID-19, we noticed that there were a significant number of questions from practicing school librarians related to specific content areas such as “Is it ok to do a read-aloud on Facebook live?” or “What are the best tools for delivering library instruction remotely?”. In addition, school librarians shared resources that they created or had found useful in their own communities. We saw this as an opportunity to examine the discourse in social networks for questions to ensure that our library and information services curriculum prepared our pre-service school librarians for the digital challenges of teaching remotely.

We developed two research questions to guide the study. Our research questions are:

1. What questions did school librarians have as they assisted their K-12 school in moving to remote instruction?
2. How do these questions align with nationally recognized school librarian curriculum?

This study uses discourse analysis to answer these questions while exploring social media postings in public Facebook groups for educators and school librarians. Eyesnbach and Till (2001) identified three different types of internet-based research methods: active analysis, passive analysis, and research self-identification. Passive analysis allows researchers to study information patterns on websites or interactions on discussion forums without the researchers being identified or involved in the forum. Franz et al. (2019) used passive analysis to study information patterns observed on Facebook or the interactions between users in existing Facebook groups. Institutional Review Board (IRB) approval was not required for this study as the data was already public information, however a determination of research form was submitted to IRB for review of the project.

Data Collection

Our first step was to complete a sample discourse analysis for the study (Wildemuth and Perryman, 2009). To begin, we studied questions from a single group of school librarians on Facebook. The results of that initial analysis are presented in this paper. The next step was to identify additional Facebook groups we would study. We plan to study questions from five different Facebook groups for educators and school librarians, specifically looking at questions related to school librarians response to remote learning related to the COVID-19 pandemic. We

will study an undetermined number of posts between the dates of February 27th – May 30th, 2020 until we reach saturation. Data will be collected, and then organized for analysis, by placing posts in Google Sheets for ease of analysis.

Data Analysis

Once data is collected, we coded the data in a similar fashion. We started by identifying themes as they emerge and take shape as we examine the text (Wildemuth and Perryman, 2010). We then independently coded responses. First level codes aligned with the 23 components on the ALA/AASL/CAEP School Librarian Preparation Standards (AASL, 2019). The second level of codes are researcher generated as relevant to the question. Once we have each finished coding, we will compare our results. Any contradictory codes were compiled and a third researcher was asked to independently code. The next step of discourse analysis was to search for patterns in the text, looking specifically for variations and contradictions. This required reading the data sets several times. Finally, the findings were compared with the current LIS curriculum (the 2019 ALA/AASL/CAEP School Librarian Preparation Standards) to identify alignment.

To validate our findings, we focused on the coherence and fruitfulness of our findings (Wildemuth and Perryman, 2010). To ensure coherence we looked for evidence that our outcomes provide clarity and focus. To ensure fruitfulness, we examined if our findings provided insight that clear implications for the improvement of practice for school librarians working remotely.

Limitations

One limitation of discourse analysis is the potential for subjectivity to enter. Careful and repeated readings of the data, rigor in our coding categories. Another limitation is that posts that are related to resource sharing (ex: links to websites) and posts memes/jokes were not included in our data collection. We recognize that these are important aspects of online communities, but they are outside of the scope of this study. For this study we limited our research to questions only. Another limitation of this research is that researchers are unaware of the identities of each person who has made the post. We do not know if the person posting is a school librarian or someone interested in school library work. We do not know the poster's educational background. However, we concluded that it does not matter if the school librarian is certified or not, all questions from school librarians, or those serving in the capacity of the school librarian, are valid. School librarians who are not certified are often future graduate students in LIS programs. In addition, we are not able to know the conditions in which the school librarian has made the post to know if they are posting with the possibility of school closure, or if their school has been closed. This study does not include comments made on professional listservs that are limited to professional members. It only includes social media groups. Lastly, we realize that each school librarian within each district and school will have a different role in the COVID-19 pandemic. This research does not assume that all school librarians are experiencing the same work conditions.

Initial Findings

For this paper, we conducted a preliminary analysis in one single Facebook group. All of the posts in a single private group on social media were analyzed as part of the preliminary phase of this study. The social media forum that we analyzed was called LM-Net, a popular Facebook

group for school librarians with over 3,000 members. This analysis includes posts made in this group between February 27, 2020 and May 30, 2020. There were 58 total posts. Of these posts, 17 included questions to the community (information-seeking) and 41 were posts that were intended to share information with the community (information-sharing). Of the 17 questions that were posed, two were unrelated to school closures of the COVID-19 pandemic so were removed from the analysis. The findings indicate that there were five major components in which questions fell (see Table 1). First, 47% of the questions asked by school librarians were related to providing library instruction or services online, including asking others how they were delivering library services, or what others were planning to do should their school move online. An additional 35% of the questions were related to reading engagement. In these posts, school librarians were asking others for recommendations related to specific topics to provide reading for specific students. One librarian actually recommended a book not to purchase because of its similarity to the pandemic and the school librarian sought others' feelings on that. Another major component discovered in the preliminary analysis is related to ethical use of information. Eighteen percent (18%) of questions asked others about copyright restrictions or sought information about resources where copyright was lifted for educational use during the pandemic.

Component	(n)	Example	SPA
Tech-Enabled Learning	5	We don't have the coronavirus in our area, at least not that I know of. But, I see a lot of social media posts about schools getting ready in case they need to make alternate plans. I'm at an elementary school. What can I do?	3.3,
Digitizing services	3		4.1,
Digitizing	2		5.4
learning			
Advocacy	2	For those of you that have already closed, what are some things you are going to work on while at home?	5.3
Librarian Role	2		
Reading Engagement	6	Could anyone suggest some books for 11-year-old girl who reads voraciously?	3.1
Recommendations	5		
Intellectual freedom	1		
Ethical Use of Information	3	Have I missed a list of author permission to stream read their books?	2.3, 5.4
Copyright	2		
Privacy	1		
Access	2	This PK-12 school librarian inherited thousands of books and is needing to sort them to find the YA titles vs Adult Fiction titles. I gave her some basic advice to help begin the sorting. Do you have any other suggestions?	4.1
Organization	2		
Information Resources	1	What are your top two recommendations for digital subscriptions?	4.2
Electronic resources			

Table 1. Preliminary findings from the LM-Net Facebook group

The results of this study are still ongoing at the time of submission as the COVID-19 pandemic continues. At this time, an initial discourse analysis of our sample indicates that school librarians are equally seeking help from others on digitizing library services and reader's advisory. School librarians were very interested in connecting young readers with the right books as they started social distancing. Future research will merge results from a variety of social media groups for analysis. Preliminary findings were also compared with the ALA/AASL/CAEP School Library Preparation Standards (AASL, 2019), which are the guiding standards for school library curriculum. All preliminary findings were able to be aligned with current standards.

Discussion and Conclusions

The preliminary findings suggest that school librarians had many questions about delivering library services online. For most, delivering library services remotely was a new experience and Facebook was a forum for asking big questions, and getting quick responses. In addition, school librarians shared many relevant resources with each other. These resources were often shared with the intent of helping others with the understanding that others may be asking the same questions. However, many questions were unrelated to the pandemic, and were common librarian questions regardless of how services were delivered. The questions asked were often related to seeking more information about the experience of others. For example, a school librarian would post a broad question, asking for a variety of specific examples, to get ideas. The preliminary findings suggest that these questions fell into just a few categories related to digitizing instruction and resources, copyright, and continuing to build reading engagement with students while they are not physically present.

This data is important for library science educators. By studying the discourse of professional school librarians, it is possible to understand more about the critical skills needed to deliver services in a pandemic. Because these discussions happen publicly, they are also useful for determining what skills and knowledge school librarians need. This study also sought to understand how well our curriculum prepared school librarians to answer these questions. We compared our findings with the current school library curriculum. All major categories are included in the ALA/AASL/CAEP standards (AASL, 2019), suggesting that library schools who are ALA/AASL/CAEP accredited will prepare school librarians for teaching in remote environments. The preliminary findings of this study also indicate that there is some confusion amongst school librarians about digital policy and ethics in particular. However, using collaboration in social networks and the hive mind, many were able to find solutions (and also alert publishers that they had a need to lift copyright regulations during this particular crisis). Another gap in knowledge was related to advocacy. Many school librarians discussed issues related to lack of access to digital devices in their communities and how they were working with that. In the future, more training on developing access plans should be integrated into school library curriculum.

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A Decolonial Curricular Approach to LIS Education

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ABSTRACT

In the last decade, Puerto Rican librarians and educators have developed curricula through a decolonial and critical lens. The developed projects respond to the needs of educators and students to address the emerging crisis that Puerto Rico has undergone. School and academic librarians have partnered with schoolteachers and Education scholars to develop educational materials and projects to meet the needs of students. Recent history has led to the demand for new types of information literacy sessions. These needs are supported by U.S.-led LIS scholarship on critical pedagogy and critical-inclusive education.

ALISE RESEARCH TAXONOMY TOPICS

education; curriculum; pedagogy; critical librarianship; social justice

AUTHOR KEYWORDS

decolonial; librarianship; Puerto Rico; education; PROMESA; curriculum

AN OVERVIEW OF THE COLONIAL LANDSCAPE IN EDUCATION SINCE 2016

In 2016 the 114th Congress of the United States and the Barack Obama administration enacted Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA Act, 2016). The enactment of PROMESA implemented the Fiscal Control Board, also referred to colloquially as “La Junta” to manage, oversee and restructure Puerto Rico’s debt as a result of the Archipelago’s financial crisis. Puerto Rican Studies scholars have compiled literature about the consequences of PROMESA. Within the discourse, social activists, educators, and libraries have met to discuss the impacts of PROMESA, the colonial status Puerto Rico, and the emerging humanitarian crisis that the archipelago has undergone (Lebrón & Bonilla, 2020). Within this humanitarian crisis, Puerto Rican librarians have gathered and archived materials of the recent history of the island, albeit the precarious conditions some of the libraries are facing after hurricanes Irma and Maria as well as the recent earthquakes in the Southern region. In addition to the collection of materials, school and academic librarians have collaborated in library advocacy projects to create educational spaces for children amidst the hardships (Redacción, 2020a; Redacción, 2020b; Editorial Casa Cuna, 2019). One of the most visible hardships the archipelago has faced is the closing of schools as a result of the massive budgetary reductions as well as the destruction of others as the result of the 2020 earthquakes in the Southern municipalities. Parallel to this, the University of Puerto Rico has also been subject to drastic

austerity measures that have threatened the services, research, and instruction (Lebrón & Bonilla, 2020).

While children and youth services are part of the forefront of the nation's education needs, these are also neglected. Inside of schools and academic institutions, librarians face the following questions: How does a librarian create an information literacy project without libraries? What does it mean to be a librarian in a colonized country? What does being a librarian it entails? In the last decade, Puerto Rican librarians and educators have developed curricula through a decolonial and critical lens. The developed curriculum projects respond to the needs of educators and students to address the emerging crisis that Puerto Rico has undergone: the imposition of PROMESA, hurricanes Irma and Maria, Summer of 2019 protests, and earthquakes in the Southern region. Puerto Rico's public, school, and academic libraries are scarce (Berrios Llorens, 2019).

In 2010 the Puerto Rico Department of Education has closed the doors to the Carnegie Library in San Juan, depriving the public from an accessible library (Berrios Llorens, 2019). Along with the closure of Carnegie, various school libraries have closed their doors or run by teachers. The only libraries that remain fully operational are college and research libraries. School and academic librarians have partnered with schoolteachers and Education scholars to create educational materials, lessons, and projects to meet the needs of students. Recent history and needs have led to the demand for new types of information literacy sessions in school as well as in academic settings. These needs are supported by U.S. led LIS scholarship on critical pedagogy and critical-inclusive education. Some of the initiatives have supported social justice frameworks, critical pedagogy, ethnic studies inclusion, as well as voicing scholarship from BIPOC and LGBTTTQI+ groups (Cooke & Sweeney, 2017).

The following essay explores Information Literacy (IL) instruction, decolonizing educational research approaches, and critical pedagogies literature. Along with the aforementioned literature, the author proposes the pertinence of incorporating the elements of each of these approaches into information literacy instruction praxis in the Puerto Rican context or Hispanic Serving Institutions with Puerto Rican communities. It is through the discussion of these approaches that the author hopes that dialogue will emanate to exchange ILL experience to create lessons that address the needs of pre-service librarians and students.

A DECOLONIAL LIS EDUCATION

Decolonial education varies according to geographical location. Zavala (2016) defines a decolonial project as one "characterized by encompassing three major strategies: first, to deconstruct our very understanding of Modernity, which is traditionally conceptualized as a historically advanced expression of (Western) rationality" (p. 2). Its implication in education entails the recognition of education as a site of struggle and rupture; a site of dialogue and response to the coloniality of power (Zavala, 2016). In the case of Puerto Rico, a decolonial education recognized the struggles faced by contemporary colonial and capitalist practices imposed in the archipelago. Its application to LIS education consists of an exhaustive dialogue and revision about Puerto Rico's information literacy needs, access to educational resources, and how can LIS students be better equipped to serve its population.

In 2019 the Graduate School of Information Science and Technologies (GSIST) at the University of Puerto Rico launched its online master's degree program. The program is accredited by the American Library Association (ALA) and has two areas of focus: library and information science, and knowledge management (UPRRP, 2019). The online program

successfully migrated its in-person course offerings into an online offering. However, just like its in-person offerings, most courses do not address issues of how to serve diverse populations. Most of these discussions take place in the CAPSTONE research seminar (GSIST, 2018). Therefore, the exposure to topics such as serving populations with physical disabilities, tailoring collections that reflect race, gender, and sexuality are discussed toward the completion of the master's program. Students will rarely be exposed to topics such as meeting the needs of socioeconomically marginalized communities unless they bring the subject. There are some instances where these scenarios are brought up by the faculty. Yet, these are only mentioned as examples and not as something that will be explored through the lesson or the semester. The lack of discussion about serving diverse populations is not something unique to GSIST. In their autoethnographic reflection about LIS education, Bishop and Moffat (2016) express their lack of exposition to these topics. Likewise, Alston (2016) as well as López and Winslow (2016) state similar observations about the programs they graduated from.

The need to incorporate courses or to actively self-reflect on the practices of LIS into the class discussion is one way to respond to what Rioux (2017) calls “blind spots.” The lack of discourse about social justice, race, gender, class, and power relations that exist in the LIS landscape are some of the aspects that some practitioners come into contact with when serving multicultural communities. The “blind spots” mentioned by Rioux (2017) demonstrate that the ideas about social justice and the service to multicultural groups in LIS students are “underdeveloped and under-represented” (p. 32). This argument reflects some of the gaps that LIS education face, which is also mentioned by Bishop and Moffat (2016) in their autoethnographic account. The effects of erasing or avoiding these discussions are long-lasting. Likewise, if these are incorporated into the medullar coursework LIS programs, they can allow healing and it will help students be cognizant about the injustices that affect those who they aim to serve (Burgess, 2017).

In the case of the Puerto Rican LIS professional, the topics of race, gender, class, and decoloniality are rarely discussed. Upon the revision of the LIS curriculum offered at GSIST, this topic is only covered in CAPSTONE research or other research activities sponsored by the University of Puerto Rico. Recently, upon the emergence of the Black Lives Matter movement and the discussion about the repercussion about Summer 2019, some LIS educators such Delgado (2020) have brought these topics forth. Delgado has created initiatives where she has collaborated with other BIPOC and LGBTQI+ librarians and educators, to discuss collection development and services that address the needs of these populations in the archipelago (Arroyo Pizarro, Denis Rosario, Lugo González, Lugo Vázquez 2020). However, these courses are offered at other private higher education institutions that offer some LIS courses for aspiring school librarians. The work of educators who bring BIPOC experiences are scarce; a similar trend observed in the United States LIS programs. Yet, one would think that the case of Puerto Rico, the discussion of BIPOC topics, and decoloniality would be more active due to the territorial condition of the archipelago. In recent years, scholars like Bonilla and LeBrón (2020) have continued to develop literature related to the effects of the PROMESA Act in Puerto Rico. The extent of the literature they have compiled includes the effects of PROMESA in public education. This includes K-12 settings as well as the austerity measures imposed on the University of Puerto Rico (Fortuño Bernier, 2017; Dávila, 2017; Bonilla & LeBrón, 2020). The University of Puerto Rico's faculty and student body have criticized the budgetary reductions it has been subjected to (Diálogo, 2018). After the devastation from hurricanes Irma and María the University of Puerto Rico faced additional challenges, some aggravated by La Junta.

The voices from LIS BIPOC practitioners into LIS education are essential to cement a sense of justice in the formation of future librarians. The inclusion of Afro-Caribbean and marginalized communities into the LIS curriculum allows us to make space to see the library profession as a tool to just, equitable, and accessible for those who are excluded from the academic spaces. Since Puerto Rico does not have a sustainable or accessible public library system, the curriculum needs to offer an insight into how to meet the needs of those that are deprived of library and information and services. By creating scenarios where future librarians can aid marginalized communities, the curriculum responds to the understanding of justice obligations that the LIS field has. These conversations and solutions need to emerge from the social, political, and economic realities of Puerto Rico. Acknowledging and working critically to educate students into navigating these topics within LIS allows them to immerse themselves in bringing forth and voicing those who have been silenced by the current structures imposed in the archipelago's academic discourse and LIS practice.

A project that has emerged from the current social, political, and economic realities of Puerto Rico is *Puerto Rico: Una sola voz*. This project is the work of two GSIST graduates and UPR librarians, Jeanmary Lugo González, and Juan Ramón Soto Rosa (2020). The work of these two Puerto Rican librarians consists of the creation of a newspaper archive about the Summer 2019 protest against former governor Ricardo Rosselló Nevarez's administration (Lugo González, 2020). The archive includes Marxist newspapers from New York, as well as publications from newspapers from the Puerto Rican diaspora. The work of Lugo González and Soto Rosa (2020) depends on donations. The interest in archiving these newspapers comes from the narratives that led to the events of the Summer of 2019. The protests held during the Summer of 2019, are the results of various government scandals regarding the handling of emergency funding after the passing of hurricanes Irma and Maria in 2017. Among the mishandling of emergency funds, hiding of relief supplies, and the 4,645 deaths as results of the aftermath of the hurricane. It should be mentioned that the government of Puerto Rico's official number denies the 4,645 deaths reported by a study conducted by Harvard University and published in *The New England Journal of Medicine* (Kishore, Marqués, Mahmud, et al., 2018). The government's official death count is 64. After Kishore, Marqués, Mahmud, et al (2018) study former governor Rosselló Nevarez acknowledged the results from George Washington University, which led to the adjustment of 2,975 (Sosa Pascual, Campoy, & Weisseinstein, 2018; Wiscovitch, 2019). The mistrust and disgust of the archipelago's residents were exacerbated when the son of the former Puerto Rico Secretary of Treasury leaked a Telegram chat. Among the conversations that were made public, the governor and his trusted allies mocked the island poor residents and those of whom had entrusted their vote to the current administration. Furthermore, the governor used misogynist language to refer to feminist activists; i.e. Colectiva Feminista en Construcción, a feminist organization that advocates for gender justice and the protection of at-risk women (Herrera, 2019). The archival practices of the information disseminated by the media became imperative for the work at the Puerto Rico Studies Collection at the University of Puerto Rico librarians. The preservation and development of projects are part of the practices that librarians undertake to voice the marginalized.

As part of the CAPSTONE Seminar requisite, GSISTS students immerse themselves into one research project. In March 2018, Vigo Cepeda worked along with her students the topic of social responsibility and open access, as well as access for people with diverse functionality. Blanco Rivera (2018) along with his students was the only project that addressed the effects of PROMESA Act and library services. The research conducted by Blanco Rivera (2018) focused

on the development of web resources. Sánchez Lugo (2018) conducted a study about the medullar information knowledge that LIS students should possess. These are the only recent research initiatives that can be identified in the GSISTS website that address issues of equity, coloniality, and LIS curriculum. Students have the opportunity for one semester to be part of these research topics. However, there is no guarantee that these topics are discussed in the required coursework. The students are dependent on the CAPSTONE Seminar at the end of their graduate studies. Students may also be dependent on the shared resources about LIS professional issues related to Black Lives Matter, the denunciation of Immigration and Customs Enforcement (ICE) practices, or initiatives developed by the University of Puerto Rico (GSIST, 2020). Although the publication of these pieces is vital, they are scarcely part of a in-classroom discussion, something that Bishop and Moffat (2016) reflect on in their autoethnographic study. Studies like the one overseen by Sánchez Lugo (2018) may shed insight into the curricular needs that LIS graduates might have identified in their practice. Within those information needs and curricular needs, students could voice the need to discuss the current socioeconomic scenario that the University of Puerto Rico, the Department of Education, and some municipal libraries are undergoing as a result of austerity measures imposed by La Junta.

Communications and non-LIS related scholarship have documented the impact of PROMESA Act to the University of Puerto Rico (Lebrón & Bonilla, 2020; Lugo González & Soto Rosa, 2020). Blanco Rivera's (2018) CAPSTONE seminar research project aims to target LIS services and bring it into the LIS classroom. Vigo Cepeda's (2018) CAPSTONE seminar projects also bring forth the voice of marginalized sectors. On the individual scientific production, Domínguez Flores' (2019) work address the challenges that an academic library system, such as University of Puerto Rico's library system, has endured. Yet, the discussions and findings of this kind of research remains to be seen in classroom discussions. The professional praxis discussion in LIS classroom settings is vital for students who aim to be part of the profession. In the case of a LIS settings such as Puerto Rico's the discussion of social justice, race, gender, ableism, and the need to incorporate alternate voices are essential to the profession. According to Kurz (2017), even in the U.S. there is a current need to incorporate literature that addresses "real action-oriented commitment to social justice" (p. 84). Puerto Rico's LIS curriculum and literature lags the discussion of school library settings as well as municipal and independent libraries. These two settings are often the most underfunded and affected by austerity measures. Both school and municipal libraries also served underrepresented populations.

Most organizational structures taught in LIS education programs are Western and Euro-Centric ones. In the case of Puerto Rico, the literature that students are exposed to is that disseminated by North American library associations, U.S. publishing, or European publish companies (i.e. Spain). Although this literature can be enriching, it does not place at the forefront Caribbean, Latin American or Indigenous epistemologies. The prioritization of anglophone literature over Caribbean or literature from the Global South perpetuates a sense of dominance that U.S. epistemologies have over the Puerto Rican discourse in LIS education. Burgess (2017) defines the need to recognize the powers that propagate Wester epistemologies as *cognitive justice*. There are some instances where Puerto Rico LIS scholars have presented their research in U.S. LIS settings, the availability of this content is limited or difficult to access. At times, the dissemination of this knowledge has been dependent on the authors.

There is a need to teach within the cultural and geographical context of Puerto Rico. Teaching within the Caribbean cultural context allows future librarians to find pertinence in the

knowledge being discussed in LIS courses and its application to LIS practice. Burgess (2017) states that “LIS educators have to look beyond the boundaries of our discipline to bring exponential knowledge into the classroom” (p. 84). This is true to LIS educators in Puerto Rican settings. The initiatives organized by LIS professionals such as Delgado (2020), Lugo González and Soto Rosa (2020) are a direct response to the curricular needs that have been identified. Furthermore, creating IL content that meets the curricular and cultural needs of Puerto Rican students is also one of the many facets that has to be reinforced in the discussion with LIS students. The decolonization of a curriculum does not happen in isolation and spontaneously. It involves constant revisions and reflections, such as the examples presented by some LIS practitioners and scholars. In their discussion about multicultural youth services and LIS education, Hughes-Hassell and Vance (2017) reinforce this notion, which goes in hand with the development of personal philosophies regarding education. Both authors elaborate the need to be culturally competent and equity literate. Both competencies are crucial to understand the social, cultural, economic, racial, gendered, and historical contexts that define the diverse geographical regions of Puerto Rico. Given the contemporary situation in the archipelago, pre-service librarians, LIS students, and LIS educators need to continue to formulate lessons, conduct research, and expose themselves into the practices that are currently defining the work of LIS professionals as well as those they aim to serve.

The aforementioned is reflected in Zavala’s (2016) work in decolonial methodologies in education. According to Zavala’s (2016), education needs to be “repositioned and situated within broader geographic-historical processes” (p. 1). Furthermore, a decolonial curriculum engages in dialogue and reflection, that aims to critique and implements counter-storytelling to challenge the master narratives or epistemologies that have silenced BIPOC voices (Zavala, 2016). By implementing counter narratives into LIS education, educators provide students with the cultural competences to aid multicultural communities and serve those who have been excluded from library settings as a result of the colonial conditions that have permeated in the archipelago’s educational institutions.

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Overconfident and Underprepared: Assessment of First-Year Undergraduate Students' Information Literacy Skills

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ABSTRACT

College students entering their first year at a small, private liberal arts college do so with varying levels of information literacy (IL) skills. With some evidence that first-year students tend to overestimate their skills, we created an instrument to measure both the students' confidence levels with various IL-related activities as well as their ability to demonstrate their knowledge of the skills themselves. After gathering the results from 159 participants during their first semester, we found that while 90% of students self-ranked their IL abilities as medium to high, 64% of participants failed the skills assessment portion of the test. Fifty-eight percent of this sample were overconfident, while 35% correctly self-ranked their skills, and 7% under-rated their abilities. This indicates to us that students are not arriving prepared for the expectations placed on them in college-level courses. As a result, we should frame our information literacy instruction in ways that acknowledge this gap, and help students to understand that they should learn new ways of doing research instead of relying on old habits.

ALISE RESEARCH TAXONOMY TOPICS AND AUTHOR KEYWORDS

academic libraries; education; students; information literacy; information needs; information seeking; reading and reading practices

1. INTRODUCTION

Information literacy (IL) is not only a graduate outcome for assessing an educational institution's effectiveness, its utility also contributes to students' academic success and research competency (Walker & Whitver, 2020). For IL instruction to be an effective factor in students' academic careers, assessment of the library's efforts becomes necessary. Demonstration of an academic library's value and capacity for delivering that value is essential.

At small, private liberal arts institutions, the contribution of the academic library must be quantified and communicated to its stakeholders, particularly in times of market disruptions confronting higher education today. When assessing its impact in IL instruction, academic libraries may under-investigate the prior knowledge first-year undergraduates hold. One approach to designing IL instruction is to fashion it from a top-down perspective, framing

instruction from the standpoint of outcomes and frameworks we know should be acquired by graduation. Without supporting literature, it may be all too easy to make inaccurate assumptions about the IL skills with which our first-year students are entering.

Prior studies have many accepting at face value that first-year students are overconfident in assessing their IL skills (Mahmood, 2016) and exhibit the Dunning-Kruger effect (Gross, Latham & Armstrong, 2012), or the inability to correctly assess one's own ability. Exploring barriers first-year students experience in their practice of information literacy, Hinchliffe, Rand & Collier (2018) note that first-year students believe they are information literate, think that every question has a single answer, and believe that freely-available online resources are adequate for their academic studies. Higher-order thinking skills such as synthesis and analysis are hampered by a lack of knowledge about the value of different types of information, leaving students less equipped to support their arguments and contribute to the scholarly conversation. Insua, Lantz & Armstrong (2018) note that students tend to perceive the research process as an activity of gathering sources rather than learning about a specific topic. Head (2013) reports the top 3 difficulties first-term, first-year students experience are: generating keywords to narrow down results, filtering and sorting among results, and identifying/selecting potential sources.

Reviewing studies examining first-year students and their IL skills prompted us to consider the foundational aspects of information literacy. Perceived adequacy is operationalized as the ability to identify source types, have a basic level of familiarity with citations, and demonstrate proficiency with basic search strategies.

2. MATERIALS AND METHODS

Individuals enrolled in a first-year experience course responded to our survey ($n=172$). Of those participants, 14 responses were dropped; of which eight were incomplete and five were under the age of consent. Among the 159 remaining respondents, 65% were female and 95% indicated they were first-year undergraduates.

At the invitation from instructors in a first-year experience course, first-semester students were recruited to take an online survey prior to receiving any information literacy instruction by college librarians. Students were advised of their rights as participants and provided consent to the IRB-approved online survey. Class time was allotted for the survey, taking approximately 15 minutes to complete. Immediately following the survey, librarians conducted a mini lesson, covering most of the critical topics introduced by the survey, as time provided. No incentives were offered to students in exchange for their participation.

To evaluate their information literacy skills and preferences, 21 questions were adapted from other sources to assess source type identification, when to cite, and predicting search outcomes (HEDS, 2019). The survey opened with four demographic questions for participant placement into categories of age, gender identity, class and major. We then asked students to self-rate their ability to critically evaluate information (Nierenberg & Fjelddu, 2015), and self-rate the levels of challenge associated with components and activities involved in conducting research (HEDS, 2019). Following these, were 18 multiple choice questions that comprise our IL skill assessment. The question answer choices contained one correct answer, four incorrect answers, and a "don't know" response.

3. RESULTS AND DISCUSSION

Raw responses were downloaded from the external survey host and imported into Excel for data cleaning and encoding. Data were encoded for all answer options, by question or survey prompt. Cross-tabulations, reliability and chi-square tests were conducted in SPSS. No identifiable information was recorded, so participants were enumerated by the order displayed in the downloaded file.

3.1. Student Characteristics

Student participants provided basic demographic information about their age, their class membership, gender identity and major. Individual majors were collapsed into four general categories of types of majors. The major type of Professional programs includes Business, Education, and Social Work. The Liberal Arts major type includes Humanities, Social Sciences, Natural Sciences and Mathematics. The STEM/Health major type is comprised of Nursing and Occupational Therapy. All students were within the 18-24-year-old category. Excepting seven transfer students, all were first-semester, first-year students. Table 1 displays both students' gender identity ("How do you identify your gender?") and class membership by their declared major type.

Characteristic	Professional (<i>n</i> =55)	Liberal Arts (<i>n</i> =53)	STEM/Health (<i>n</i> =41)	Exploratory (<i>n</i> =10)
Female	32 (58%)	29 (55%)	34 (83%)	8 (80%)
Male	23 (43%)	22 (42%)	7 (17%)	2 (20%)
Non-binary	0 (0%)	0 (0%)	0 (0%)	0 (0%)
(blank)	0 (0%)	2 (4%)	0 (0%)	0 (0%)
Class:				
Freshmen	51 (93%)	50 (94%)	41 (100%)	10 (100%)
Transfer students	4 (7%)	3 (6%)	0 (0%)	0 (0%)

Note: Sums of percentages may not exactly equal 100% due to rounding errors.

Table 1. Student Characteristics as a Percentage of the Sample by Major Type.

3.2. Measuring Student Confidence in Their IL Skills

Two matrix questions and a single rating were aggregated to create a measure of student confidence in their own IL skills. The two matrix questions asked students to rate how challenging they found certain components and activities involved with the research process. Answer choices included very easy, somewhat easy, somewhat difficult, very difficult, and no experience. To explore student ratings, answer choices for very easy and somewhat easy were collapsed into an answer category "easy," and the same method was repeated combining the "difficult" answer choice. Both matrix questions were aggregated and are depicted in Figure 1.

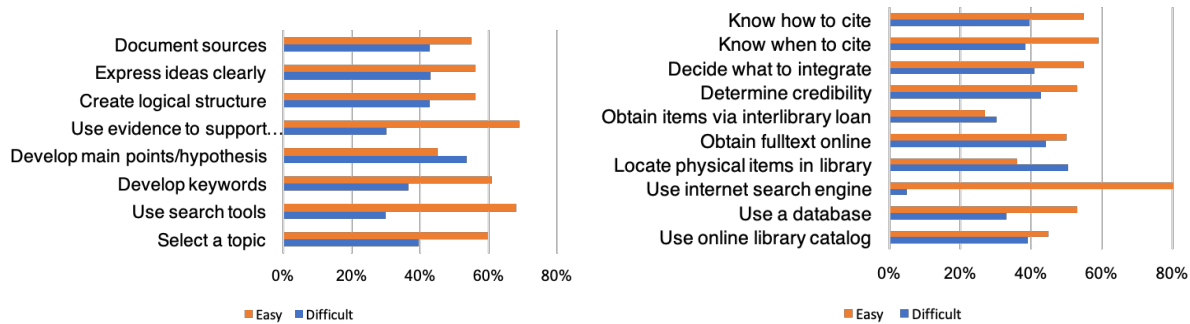


Figure 1. Self-ratings on Challenges of Research Components and Activities.

Overall, students expressed ease of use in largely every research component and activity, with the exceptions of developing main points or hypotheses, obtaining items through interlibrary loans, locating physical items in the library, and using the online library catalog. Fewer than 45% of participants rated these four categories as easy.

A prompt for measuring student confidence in their ability to critically evaluate sources of information followed the Research Components and Activities questions. Answer choices ranged from very good, good, average, poor, to very poor. For comparison, five responses of “don’t know” were omitted for an n of 154. Students’ ratings are displayed in Figure 2. Raw frequencies of answers appear in white over each bar in the graph.

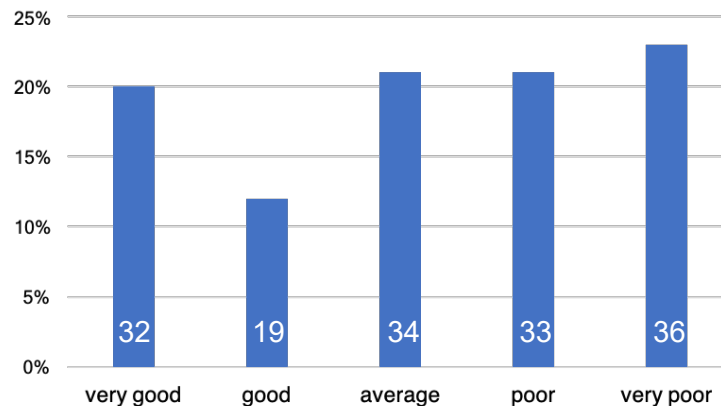


Figure 2. Self-Ratings on Ability to Critically Evaluate Information.

To aggregate the re-encoded measures of student confidence for the self-ratings, a new measure was created. Results of the three self-ratings (challenges with research components and activities, Figure 1), and re-encoded ratings on the ability to critically evaluate information were combined by participant. Re-encodings were necessary to align ratings. Figure 3 illustrates how responses were aligned.

Encoding	Challenge Self-Ratings	Critical Evaluation Self-Ratings
5	very easy	very good
4	somewhat easy	good
3	somewhat difficult	average
2	very difficult	poor, very poor
1	no experience	don't know

Figure 3. Key for Encoding Self-Ratings.

The reliability of this set of ratings was tested, indicating an acceptable level of reliability on this subset of questions ($\alpha=.89$). Encoding and aggregating self-ratings produced an overall self-ranking of individual confidence in performing various aspects of incorporating IL skills. From a potential total of 95 points, scores of 80% and above were encoded as high self-rank; 60-79% were encoded as medium self-rank; and 59% and below as low self-rank. Table 2 displays the distribution of self-rank scores by major types.

Remarkably, a combined 69% and 21% yields a total of 90% of first-year students who self-ranked their confidence in conducting academic research as medium or high, based on ratings of easy, very good, and average.

Self-rank Level	Professional (n=55)	Liberal Arts (n=53)	STEM/Health (n=41)	Exploratory (n=10)	Total (n=159)
Low	5 (9%)	3 (6%)	5 (12%)	3 (30%)	16 (10%)
Medium	40 (73%)	37 (70%)	27 (66%)	5 (50%)	109 (69%)
High	10 (18%)	13 (25%)	9 (22%)	2 (20%)	34 (21%)

Table 2. Distribution of Self-Rank Scores by Major Types.

3.3. Measuring Information Literacy Skills

We utilized the 18-question assessment of information literacy skills to measure students' incoming skills. A binary coding scheme was then created to capture whether students submitted the correct answer (1), or an incorrect (0) or no answer (0). This procedure yielded the potential for an 18-point information literacy scale. The reliability of this set of 18 answers was tested. The resulting Cronbach's alpha coefficient of .85 indicated an acceptable level of test reliability on this subset of questions. Using the same percentage scale of students' scores on the IL skill questions, scores of 80% and above were rated as high accuracy; medium accuracy for scores falling between 60%-79%; and low accuracy for scores below 60%. Table 4 depicts the distribution of IL skill accuracy by major types.

IL Skill Accuracy	Professional (n=55)	Liberal Arts (n=53)	STEM/Health (n=41)	Exploratory (n=10)	Total (n=159)
Low	41 (75%)	30 (57%)	20 (49%)	10 (100%)	101 (64%)
Medium	12 (22%)	20 (38%)	10 (24%)	0 (0%)	42 (26%)
High	2 (4%)	3 (6%)	11 (27%)	0 (0%)	16 (10%)

Table 3. Distribution of IL Skill Accuracy by Major Types.

To directly compare the self-rank scores from Table 2 to the IL skill accuracy scores from Table 3, a cross-tabulation was created, as displayed in Figure 4 below.

	Low self-rank (n=16)	Medium self-rank (n=109)	High self-rank (n=34)	Total (n=159)
Low IL skills	88% 14	61% 66	62% 21	64% 101
Medium IL skills	13% 2	31% 34	18% 6	26% 42
High IL skills	0	8% 9	21% 7	10% 16

Figure 4. Distribution of IL Skill Accuracy by Self-Ranked Scores.

To understand the distribution of self-ranked scores in comparison with actual performance, we first consider those who are correctly ranked in relationship to accuracy levels (highlighted in blue). Fifty-five students, or 35% of our sample correctly ranked their perceived skill to actual performance. Ninety-three students or 58% of our sample were overconfident (highlighted in orange), and 7% under-rated their individual confidence in performing various aspects of incorporating IL skills (highlighted in yellow).

Gross and Latham (2012) report student overconfidence, based on students' estimates of their own scores against the anticipated scores of their peers. Similar to the current study, Gustavson and Nall (2011) compared students' predictions of their IL skill to scores of correct responses to library research questions and reported an underwhelming .12 correlation between test scores and self-reported confidence (pg. 299). Molteni and Chan (2015) also note that confidence is not a reliable predictor of proficiency. Their survey instrument prompted confidence ratings (Excellent to Poor) by separate descriptions of specific tasks. These conclusions suggest that undergraduate student confidence and preparation levels should be viewed in proportion to actual performance on IL skills.

Based on these particular students, which areas of underperformance should inform IL instruction? To answer this question, a chi-square analysis for students' IL score for each

question was conducted. Figure 5 displays student performance by question.

		Low IL skills		Medium IL skills		High IL skills		All		χ^2
		inc	correct	inc	correct	inc	correct	inc	correct	
source type	popular magazine vs scholarly article	88	13	32	10	7	9	127	32	*16.65
	aspects of peer-reviewed/ refereed	64	37	12	30	2	14	78	81	*23.88
	citation definition	83	18	34	8	9	7	126	33	5.75
source type: primary vs secondary	autobiography	37	64	3	39	0	16	40	119	*19.68
	biography	60	41	10	32	0	16	70	89	*29.25
	book review	20	81	3	39	2	14	25	134	3.73
	fictional novel	88	13	26	16	8	8	122	37	*17.69
	lab report	12	89	2	40	0	16	14	145	3.59
	scholarly article analyzing fiction	51	50	7	35	1	15	59	100	*21.80
source type: identify by citation	journal volume and issue	67	34	9	33	4	12	80	79	*28.49
	journal vs book or book chapter (3 questions)	84	17	26	16	3	13	113	46	*30.21
		75	26	18	24	1	15	94	65	*32.68
		78	23	14	28	2	14	94	65	*39.65
search strategies	relevance	25	76	1	41	0	16	26	133	*14.33
	truncation	46	55	17	25	3	13	66	93	4.11
	by reference list	77	24	18	24	2	14	97	62	*31.49
	boolean operator	81	20	18	24	5	11	104	55	*27.46

* $p < .01$

Figure 5. Chi-square Analysis by Question, by Student Performance.

Questions with a significant χ^2 means that the questions are very likely dependent on

one's IL skill score: One's IL skill level is highly associated with whether or not questions were answered correctly. Orange shading highlights those questions with greater numbers of incorrect responses; red shading is used to accentuate where most students struggled with understanding. While this snapshot may be isolated to these individual students, it can also provide a glimpse of how students with low IL levels compare to those in the medium and high levels. While we do not suggest that library instruction topics should be cherry-picked, this analysis does help us differentiate between skill levels and for guiding IL instruction.

Most first-year students (64%) in this study failed an IL skills test, but a small minority evidenced IL preparation adequate to the rigor of higher education. While exemplary performance was not expected, the high number of students who were overconfident in their self-rankings should have been expected, given the attention paid to this phenomena in the literature. The 58% rate of those who over-rated their performance suggests a background low in information literacy skill acquisition. Like the Dunning-Kruger effect, low levels of preparation can lead to a tendency to disregard additional instruction or assistance, self-satisfaction with low performance levels, and ultimately an inability to assess and use information systems (Gross, et. al., 2012).

Limitations to this study culminate from the study's exploratory nature and from the specific population of students attending a small liberal arts college. We were not sure what we would learn, and thus our IL skills testing included only baseline measurements. Certainly, keyword generation, the filtering/sorting of results, and exposure to library services should also be included in first-year student IL instruction.

4. CONCLUSION

Particularly in our age of mass propaganda and misinformation campaigns, the importance of information literacy instruction is as critical as ever. The inherent message from the results of this survey for library instruction today is that most students enter college without sufficient skills to participate in college-level coursework (Lanning & Mallek, 2017). Acknowledging this will help librarians prepare for IL instruction. By designing instruction that attends to students' lack of awareness and preparation, we can meet students where they are (Insua, et. al., 2018). For example, we suggest framing instruction to first-year cohorts acknowledging they are meeting new expectations and with new resources, and need to develop different skills. We further recommend the assessment of student confidence coupled with the assessment of actual performance. Sharing the results with the students themselves may also help them recognize and accept their novice status within a new informational environment. Furthermore, we are developing self-guided tutorials for problem areas identified by this analysis: Understanding source types and documentation, and developing database search strategies. More recent work suggests that by incorporating metacognitive strategies in IL instruction helps students overcome uncertainty and improve engagement, beyond providing mere "database demonstrations" (Chisholm & Spencer, 2019).

For new librarians, this study also provides a method for employing a simple pre- and post- survey of IL assessment, without incurring the formality of a full study. By incorporating an online poll for students to rate their perceived challenges of activities and components of research, for example, IL instruction can be modified to suit the preparation levels of a first-year

audience. Librarians are limited by the availability of assessment tools, and these low-level methods of assessment can help an academic library empirically demonstrate its value in support of the academic mission and throughout a student's academic lifecycle.

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Barriers to the Adoption of EHR in GCC Countries: Exploratory Study

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ABSTRACT

Electronic Health Records (EHRs) have become a focus of research in health informatics due to the increasing awareness of its importance in healthcare. The call for use and adoption of EHR systems by governments around the world and in the GCC countries in particular have increased over the years in an effort to improve healthcare, reduce cost and ensure patient safety. This study examines the challenges and barriers affecting the use and adoption of EHR by GCC countries. Investigation and analysis are based on research studies, health reports, and published data by GCC countries in the last ten years. The results revealed repeating patterns and themes with regard to the challenges and barriers to the implementation of EHR systems in the GCC countries. We hope the findings from the study would benefit healthcare institutions in GCC countries in their efforts of overcoming the challenges and barriers to the use and adoption of EHR systems.

ALISE RESEARCH TAXONOMY TOPICS

information needs; information rights; sociology of information

AUTHOR KEYWORDS

records and information management; electronic health records; barriers and adoption; GCC countries.

INTRODUCTION

The adoption of Electronic health records (EHR) is inevitable given the advances in technology and the continued modernization of the health globally. The Gulf Cooperation Council (GCC) include Kuwait, UAE, Bahrain, Qatar, Saudi Arabia, and Oman with a total population of over 55 million. The GCC is considered one of the fastest-growing economies in the middle east due to heavy investment in infrastructure supported by decades of saved petroleum revenue and the realization of the need to reduce dependency on oil.

The benefits of adopting and using Electronic Health Record (EHR) systems in healthcare are well documented in the literature (Anderson, 2000; Balas, Austin, Mitchel et. al., 1996; Bates, 2000; Berg, 2001; Hillestad, et.al. 2005; Laerum, Ellingsen, Faxvaag, 2001; Reussa, Menozzia, Buchib et al., 2004; Wager, Lee & Glaser, 2009). Electronic Health Record provide faster and more secure access to medical records by health providers and clients that enhances the quality of treatment and save lives by minizine errors and reducing liability (Roesch, Gruber, Hawelka et al., 2003). It is also documented that medical and clinical decision-making relies heavily on the availability of quality and reliable information. EHR enhances the flow of information and the quality and reliability of the communication channels between, patient and healthcare providers (Vermeir et al., 2015; Vogel, et al., 2015). In an initiative to reduce medical errors, the American Recovery and Reinvestment Act (2009) gives financial motivations to hospitals whose employees use health information technology “meaningfully” (Tsai, et, Pancoast, Duguid & Tsai, 2014). It is estimated that each year between 44,000 and 98,000 people die in hospitals in the U.S due to avoidable medical errors (Institute of Medicine report, 1999; Kohn, et al., 2000).

In this study, we examine the challenges and barriers affecting the use and adoption of EHR systems in GCC countries. Despite the progress made in GCC countries over the past decade in infrastructure including the adoption and implementation of technology in governments and private sectors, the adoption and implementation of EHR systems remain lagging behind which begs the question, what are the major issues, challenges and barriers affecting the use and adoption of EHR systems in GCC countries?

LITERATURE REVIEW

There has been a steady increase in the adoption and implementation of electronic health records (EHR) by healthcare institutions globally over the past few decades. This was primarily motivated by the need for institutions to provide cheaper, better, safer and more efficient healthcare for their patients. Studies have shown that hospitals who adopted and implemented EHR/EMR systems had 3-4% lower mortality rates compared to those did not use or have EHR systems in place (Yanamadala, Morrison, Curtin, McDonald & Boussard, 2016). Furthermore, healthcare costs was reduced significantly using information systems (Ackermann, 2014; DesRoches et al., 2008).

In 2000, Saudi Arabia’s government formed a health improvement committee to look into healthcare services and examine the issues related to the lack of suitable health informatics services in the country (Uluc & Ferman, 2016). According to Altuwaijri (2010), Saudi Association for Health Informatics (SAHI) was established. In 2008, five-year national e-health program was set up with the objective of building quality health system based on patient centric care, guided by standards and enabled by e-health (Uluc & Ferman, 2016). Similarly, The United Arab Emirates (UAE) created official plan improve the quality of healthcare in the country. The Health Authority Abu Dhabi (HAAD) and Dubai Health Authority (DHA) are the two main healthcare establishments in the UAE working on an organized programs as a part of the complete healthcare strategy towards a cohesive health informatics and e-health by having not only improved but also a comprehensive information exchange system.

Oman is one of the first countries in the region that fully implemented an integrated the electronic health record system in its government hospitals. The system was first applied in

primary health care centers and then implemented in the countries hospitals. According to Al Farsi & West in 2006, the World Health Organization (WHO) described Oman health system as most efficient health system in the region. The e-health system that was established catered to end-users, physicians, and staff, and was designed with moving away from paper and moving completely electronic in mind. In Bahrain a series of reforms and initiatives launched by the Ministry of Health (MoH) have led to significant improvements in the quality of health. Al Nawakda et al (2008) stated that the “confirmation of this successful track record is reflected in the Human Development Index report published by the Financial Research Center (UNDP) in 2004. The Primary Health Care and Mother and Child services are offered through a network of 22 health centers and clinics, plus several specialized clinics for chronic diseases”.

Qatar is one of the GCC countries that has undergone a fast development when it comes to their healthcare system. Qatari developed a healthcare system with universal coverage. According to Goodman (2015), Qatar imported several healthcare systems from other countries and currently struggle to mold these foreign systems to their unique indigenous culture. There has been an extraordinary development of both medical infrastructure and academic inquiry over the past two decades. In Kuwait, the government regulate and established standards for health care delivery across all primary, secondary and tertiary health care centers (Naim et. al., 1986). Kuwait spends 6.9% of the national budget on healthcare reforms and over the past 20 years, the Ministry of Health has put in place a comprehensive information strategy to keep up with the demands by developing a ministry-wide health information system (Al-Jarallah et al, 2009; Almutairi, 2011).

Kuwait has grown over the years in its use of digital health tools and systems, however they are still considered limited. Adoption of EHR systems in Kuwait’s healthcare has varied considerably, with only two government hospitals integrating their EHRs with other digital systems such as radiology and lab information systems, while other institutions only adopting “fragments” of digital solutions. This is despite the fact that establishment of central information technology department to integrate electronic communication networks (Al-Askari, 2003; Almutairi, 2011; Al-Hazami, 2010; Alhuwail, 2019).

Research has clearly shown that EHR systems are necessary because they reduce costs and improve outcomes, ensure safety, improve service delivery and ultimately patient satisfaction (Wager et al, 2009). In 2008, Kuwaiti government established the National Accreditation Program for Hospitals developed by the Accreditation Canada’s Client Centered Accreditation Program the aim to monitor and maintain quality of care, as well as enhance patient safety across government hospitals (Alhuwail, 2019; Ladha-Waljee et al., 2014; Mitchel, Nicklin & Macdonald, 2014).

RESEARCH METHOD

The current study is based on literature review and content analysis of published material about health in GCC countries. A literature search was conducted using the following databases: 1) PubMed, 2) EBSCO, 3) The Cochrane Library, and 4) Google Scholar. A review method was used in order to have a formal, guided methodology. In summarizing the data by planning, conducting and reporting the review and its results

(Kitchenham & Charters, 2007). A selection criterion was also implemented to ensure reliability of the information gathered. The Inclusion criteria included: 1) publications between 2009 and 2019, (2) full text articles in English, (3) research articles, empirical evidence, reviews conducted in GCC countries, (4) the use of specific search terms to narrow down the topic. Keywords used in the search included: healthcare, electronic health records, HER, Adoption, implementations, barriers, challenges, information systems, Kuwait, Oman, Saudi Arabia, Bahrain, Qatar, United Arab Emirates, UAE. The search queries included combinations of these keywords only studies that are relevant studies were included. Systematic Literature review using the method outline by Sampaio, R. F., & Mancini, M. C. (2007) was adopted. The method involved formulating the overarching conceptualization of the barriers to the adoption of EHR by identifying unique relations, contradictions, gaps and classification of terms and concepts.

RESULTS

The total number of publications identified and found to be relevant and fit the criteria is 172 articles. The documents included scholarly publications and country reports related to healthcare and the adoption and implementations of electronic health records and health information systems. The selected documents are then organized and analyzed from different aspects such as date of publication, title, authors, types of healthcare system, countries concern, research methods used, results and discussion, Barriers and challenges. Content analysis of the articles for types of barriers and challenges are generated and listed by countries. Mapping the list using word cloud as shown in Figure 1 highlighted the type of issues raised by various studies. Some of the barriers and challenges included keywords such as financial barriers, lack of training, legal and regulatory issues, time for training, privacy and security and so on.



Figure 1. Word Clouds of Terms describing Barriers and Challenges

The word cloud results and the categorization of barriers and challenges by countries are categorized into six different areas as shown in figure 2. These areas include financial barriers and cost, technical support and training, use difficulties, Time and training, cultural issues, legal and ethical consideration, negative attitude and normative beliefs. Many physicians cited staff support for EHR system highlighting manpower and training issues.

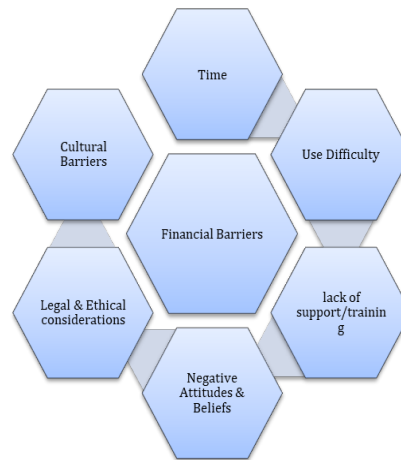


Figure 2. Challenges and Barriers

In terms of investment in healthcare Infrastructure, Table 1 shows public healthcare expenditure of the GCC countries in 2019. Interesting, Oman has the second highest healthcare spending after Saudi Arabia Given Bahrain small population and small GDP. Bahrain and Qatar have 3 physicians per 1000 inhabitant whereas the rest of the GCC countries has 2 physicians per 1000 inhabitant according to World Bank data.

Country	Population (Millions)	Gross Domestic Product	Healthcare Spending (percentage of GDP)	Number of Physicians per 1000 inhabitant
Saudi Arabia	33	786B	5%	2
UAE	10	414B	2.8%	2
Kuwait	4	140B	3.3%	2
Oman	5	78B	3.0%	2
Qatar	2.7	191B	2.5%	3
Bahrain	1.6	37.7B	4.5%	3

Table 1. GCC healthcare Spending.

CONCLUSION

The results from literature analysis are consistent with data obtained from studies in other countries such as Europe and the United States (Van Velthoven et al, 2016, O'Donnell et al, 2018). The commonly cited barriers are financial related issues, technical issues, ethical and cultural issues as well as attitudes of professionals including perceived usefulness of EHRs. Some of these barriers are similar to those reported in the west in terms of cost, usage of technology by physicians due to time constrains (O'Neal & Kevin, 2006; Audet et al., 2004;

Loomis et al, 2002). Other concerns noted in the literature included patient information confidentiality and breach in privacy of information as well as data being lost or stolen (Gregory et al, 1995; Dodek & Dodek, 1997). GCC countries have unique and additional issues that include legal and ethical issues, cultural issues as well as the availability of competent workforce. Overcoming these barriers in the GCC region will ultimately ensure efficiency and patient safety. As a result, to promote and encourage the acceptance and use of EHR systems by the healthcare professionals, educating and informing the professionals on the barriers found may help overcome them in the future.

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Integrating Cultural Perspectives in the iField: The Case of Asian Informatics

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ABSTRACT

This research study justifies Asian informatics as an emerging area of research in the information field (iField) and demonstrates its potential to facilitate diversity of library and information science (LIS) education in the U.S. by offering a cross-cultural perspective in this increasingly multicultural information age. Providing a critical analysis of the iField doctoral education in the U.S., this paper demonstrates the needs and benefits of integrating Asian informatics as part of the LIS curricula, urging LIS education to raise cultural awareness in information studies.

ALISE RESEARCH TAXONOMY TOPICS

education programs/schools; curriculum; education; information literacy

AUTHOR KEYWORDS

Asian informatics; domain-specific informatics; LIS education; doctoral curriculum; cultural perspective

INTRODUCTION

Emerging from the late 20th and early 21st centuries, domain-specific informatics studies have developed into multiple fields constituting the rapidly shifting information studies (iField) (Bonnici et al., 2009). Exemplified by educational informatics, social informatics, health informatics, and cultural informatics (Ford, 2008; Levy et al., 2003; Kling, 1999; Bath, 2008), domain-specific informatics fields have the potential to deepen understandings of both the domain knowledge and information research. With the only appearance in a course investigating ICTs in Japan (University of Hawaii at Manoa, 2015), the term “Asian informatics” has neither been used nor justified as a field of scholarly inquiry. This critical review paper argues that Asian informatics qualifies as an emerging domain-specific research field with established thematic inquiries, approaches, and rationale of research, and can be particularly meaningful for the library and information science (LIS) scholarship. With an examination of the current iSchool doctoral education, this paper also suggests the needs and benefits of incorporating Asian informatics, along with other culture-oriented informatics research areas, into LIS education and training LIS professionals to thrive in the increasingly globalized and multicultural work environment and information age. The central inquiry for this study is twofold: 1) What constitutes the field of “Asian informatics”? 2) How does it inform LIS education, especially the doctoral education, to incorporate cultural perspectives?

LITERATURE REVIEW

Discussion of the iSchool movement started as early as the 1980s (Wiggins & Sawyer, 2010). According to Larsen (2008), iSchools “address the relationship between information, technology, and people.” Situated at the intersection of the three dimensions, aspects related to an iSchool identity have been constantly under debates, including naming conventions, curriculum design, and the field’s intellectual values (Dillon, 2012). Various approaches and perspectives have been adopted to investigate identities of iSchool communities and how an iSchool differs from a non-iSchool (Shu & Beheshti, 2016). A large number of studies examined the intellectual diversity of iSchools through the faculty’s research interests (Wu et al. 2012), teaching areas (Shu & Beheshti, 2016), educational backgrounds (Luo, 2013), and the venues of their publications (Chen, 2008).

However, there is little research on iSchool PhD program offering and design. While some studies have looked into iSchool curricula (Bonnici et al., 2009) and the core values of the graduate education in iSchools, their focus has been on Master’s programs (Wu et al., 2011, Subramaniam & Jaeger, 2011). This study aims to fill this gap and contributes to the literature by providing an analysis of PhD education in iSchools and advocates for the inclusion of cultural awareness in the curricula with an example of “Asian informatics.” Believing that doctoral programs reflect research frontiers of the iField, this study has the potential to demonstrate the future of LIS.

METHODOLOGY

This paper uses a mixed method design to examine two aspects. The first section constructs Asian informatics as a field based on a critical literature review. Specifically, we conducted literature review of multiple established domain-specific informatics fields, including social, educational, health, and cultural informatics, analyzing typical characteristics that constitute them and how they can inform the construction of Asian informatics as a domain-specific field. Furthermore, we assembled the “Asian informatics” literature, searching the keywords such as digitalization, digital libraries, open access, information and communication technology (ICT), China, Japan, and Korea. We systematically reviewed the identified articles and proposed three aspects of Asian informatics research.

The second section examines the doctoral programs and curricula of iSchools in the U.S., using descriptive statistics and content analysis. We collected data from a sample of 18 first-tier US iSchools in iCaucus that are regarded as leaders in the field. The sample data include information on PhD degree offerings and required coursework of the selected iSchools (Appendix¹). To code the data, we performed two mapping tasks: (1) categorize the PhD degrees offered into eight categories (Table 1), and (2) map the collected core PhD curricula into social,

¹ <https://drive.google.com/file/d/17Yz9-fa-R70Z0ft8YgAQFTINV8YCjElP/view>

health, educational, and cultural informatics based on their definitions from the literature. We first individually conducted the mapping tasks, and then reviewed the results together and resolved the disparities.

Category	PhD Degree Offering
Communication	PhD in Communication
	PhD in Communication Disorders
	PhD in Media Studies
Computer Science	PhD in Computer Science
	PhD in Network System
	PhD in Intelligent System
Informatics	PhD in Informatics
	PhD in Bioinformatics
Information Science	PhD in Information Science and Technology
	PhD in Information Management and Systems
	PhD in Information System Engineering
	PhD in Information Science with Concentration in Telecommunications
	PhD in Information Science with Concentration in Linguistics
	PhD in Software Engineering
Information Studies	PhD in Information
	PhD in Information Studies
Library and Information	PhD in Library and Information Science
Statistics	PhD in Statistics

Table 1. PhD degree offering and disciplinary distribution

ASIAN INFORMATICS

The idea of Asia has been constructed from various perspectives. Lewis and Wigen (1997) traced the geographical construction and transition of “Asia” under various world systems such as the continent-based global geography, the binary construction of the “East” and “West,” and the world region system, demonstrating the efficacy of a geographical perspective in constructing identities of Asia. Said (1979) interpreted the cultural meaning of “Asia” under the imagination of the West. Wang (2010) further argued that the idea of “Asia” was always related to issues of modernity and capitalism. The multiple Asian identities are further complicated in the current information age. In addition to Asian studies scholars who investigate languages, cultures, and histories of Asia, information professionals have made significant contributions to the field and can continue to do so in the digital age, particularly by engaging in Asian informatics research and education.

Domain-Specific Informatics Fields

Informatics research has been an emerging field; a close examination of typical domain-specific informatics fields as follows builds the foundation to construct and reflect on the field of Asian informatics. Rob Kling (1999) defined “**social informatics**” as the interdisciplinary study of the “design, uses and consequences of information technologies that consider their interaction with institutional and cultural contexts.” Current issues such as fake news, online diversity, and urban dynamic simulations (Staab et al., 2018) as covered by recent social informatics conferences demonstrate the trends of the field. Smutny and Vehovar (2020) further provides a comprehensive overview of the landscape of social informatics field, explicitly demonstrating the evolution, schools of thought, methodologies, and themes of the field around the globe.

Educational informatics was originally concerned with the “relationships between people, information, ICTs, learning and professional practices at the level of individual and social action, and in diverse organizational and institutional settings” (Levy et al., 2003). Ford (2008) further emphasized educational informatics being the integration of ICT, education, and library and information science, and defined it as “development, use, and evaluation of digital systems that use pedagogical knowledge to engage in or facilitate resource discovery in order to support learning,” focusing on both the educator’s and learner’s ends.

Health informatics focuses on the “use of information and ICTs to improve the quality of care and health and well-being of patients and the general public (Bath, 2008). Covering a variety of topics such as informatics system development, information needs and behavior research, and information ethics, health informatics exerts significant impacts on domains of research such as human biology, computer and engineering sciences (Haux, 2010).

Cultural informatics was defined as an informatics field that “emphasizes understanding of the human world, that which is made or influenced by humanity (Illinois Informatics, 2019). Cultural informatics implies the application of information technologies and computational methods to investigate questions related to art, human cultures, and humanities disciplines (Yaco & Ramaprasad, 2019).

In summary, a domain-specific informatics field investigate the contributions of information and technologies to solving problems of a specific knowledge domain. Simultaneously, it also addresses how social and cultural contexts influence the design and implementation of information and technologies. Asian informatics as a domain-specific informatics field offers the opportunity to revisit issues of information and technologies in a new context.

Emerging Themes in Asian Informatics

We propose three critical aspects of Asian informatics. Studies of **ICTs in Asia** contribute to our understanding of the current Asian societies, particularly the impacts of information and communication technologies on public lives and nation-level administrations (Qiu & Bu, 2013). The development of ICTs in China concerns how the nation could play the digital card and “underpins innovation, structural reforms, the new industrial revolution, and the new digital economy” to fulfill the goals from the 13th Five-Year Plan (Yu, 2017). In Japan, ICTs have been widely applied in crisis communication (Cho et al., 2013) and administrative

management (Fujita et al., 2005). The ICT industry in South Korea has become one of the major driving forces to overcome the economic crisis and is strongly supported by government policies (Hong et al., 2015).

In the aspect of **digitalization of cultural information**, various types of cultural heritage institutions have done tremendous work for the digital transformation of Asian research. Digital humanities initiatives offer important channels for project exhibitions, information sharing, and cross-field collaborations. Asian libraries have also been the leading force for digital humanities projects, especially in digitization of manuscripts and documents², managing digital collections and archives³, creating databases⁴, and supporting scholars and researchers on their DH endeavors.

The development of digital cultural information and movement of open access have generated new concerns in **information ethics**, e.g., privacy and the right to be forgotten (De Baets, 2016). When digitizing cultural information that originates from an Asian context, handling information ethics becomes more complicated with variances in cultural, political, and societal perceptions of privacy. This cross-cultural consideration on information ethics can shed light into principles for other culturally-specific or marginalized archives (Allemann & Dudeck, 2019; Luker, 2017).

Based on the review, we define “Asian informatics” as a field that simultaneously sees Asia from the perspective of information and investigating information in the Asian context. As with other domain-specific informatics fields, it requires the combined expertise in both Asian scholarship and information studies. We argue that it is applicable to extend this framework to other cultural contexts and combine area studies with informatics research, incorporating a cultural perspective into the iField.

LIS DOCTORAL EDUCATION IN THE U.S.

Our examination of the doctoral education landscape of iField suggests two major change: (1) the emergence of the informatics research in the iField, but however (2) the lack of awareness of cultural contexts of information in informatics research.

Figure 1 demonstrates that the iField has been constructed with eight perceived fields of research. The majority of the PhD programs focuses on information science (N=14) and computer science (N=13), suggesting the increasing emphasis on computation in the field. Figure 2 further illustrates the emergence of informatics research in the iField. Drawing upon definitions of social, educational, health, and cultural definitions as discussed previously in the paper, we identified 32 courses as they relate to informatics research from the 163 core courses offered at the 18 iSchools (Figure 2). Among the 32 courses, the majority (62.5%, N=20) is in the category of social informatics, 2 courses in the health informatics field (6.25%), 3 in the educational informatics field (9.37%), and 3 in the cultural informatics fields (9.37%). In addition to the four identified informatics fields, there are 4 out of 32 (12.5%) general informatics courses mapped

² For example, the Chinese Rare Book Collection: <https://guides.library.harvard.edu/Chinese>

³ CR/10 project at the University of Pittsburgh Library System: <http://culturalrevolution.pitt.edu/#HomePage>

⁴ For example, the Chinese Local Gazetteers Project (<https://www.mpiwg-berlin.mpg.de/content/chinese-local-gazetteers>) and China Biographical Database Project (<https://projects.iq.harvard.edu/cbdb/home>)

into the “Others” field. As shown in Figure 2, current informatics curriculum still has a strong technical emphasis. The social and other contexts of information, despite being partially addressed in social and cultural informatics, are not well represented in the doctoral curricula.

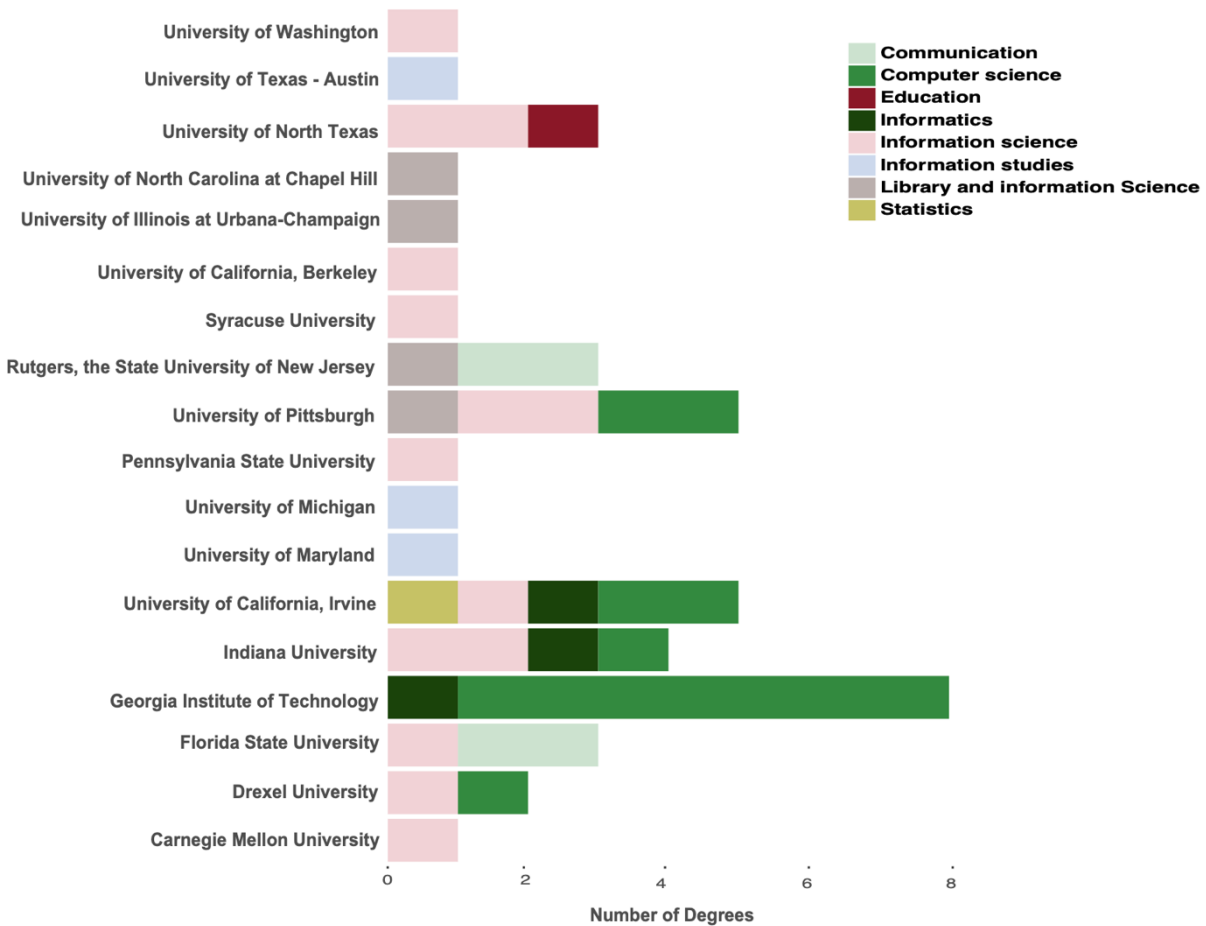


Figure 1. Distribution of PhD degrees among the selected iSchools

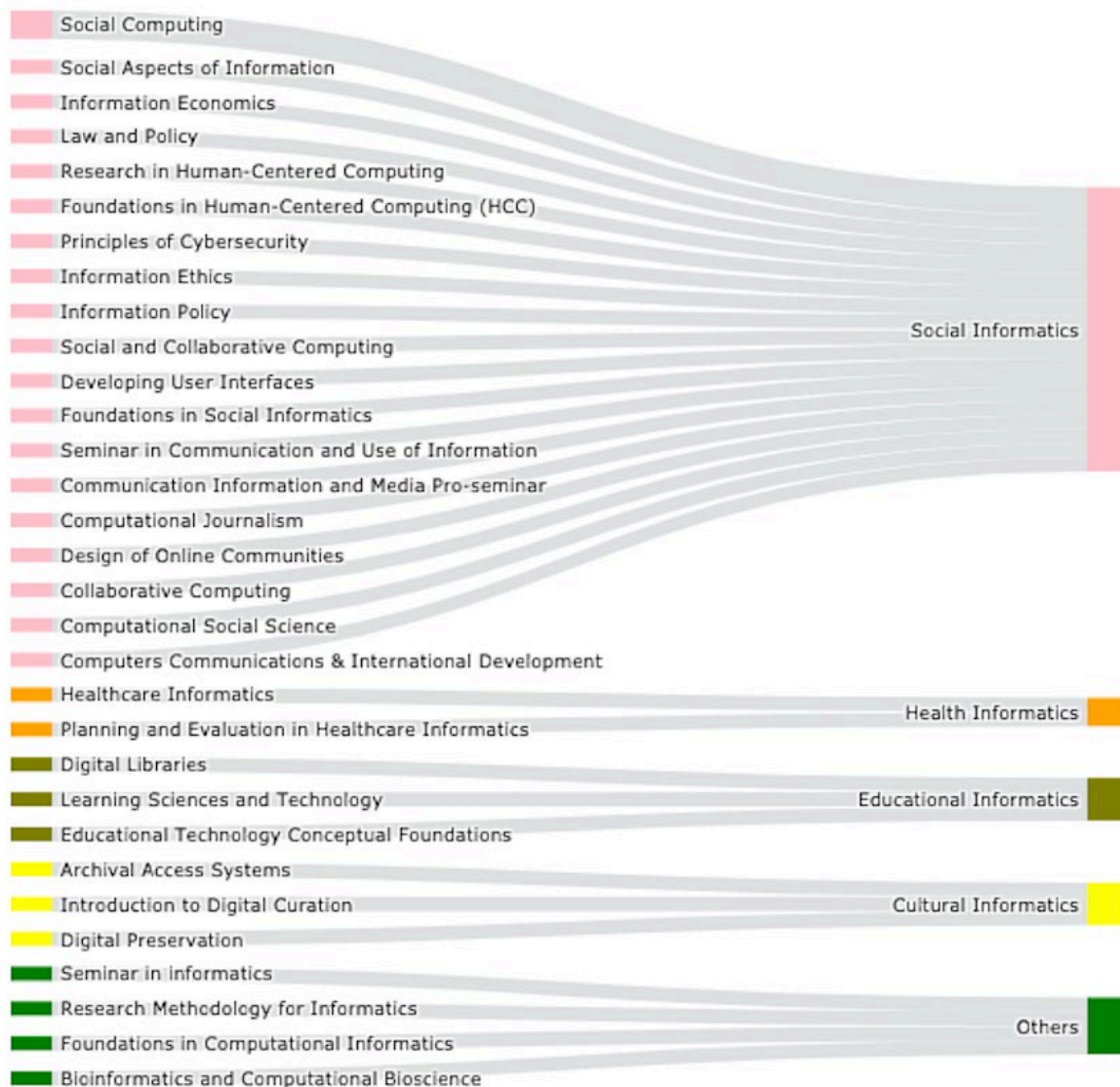


Figure 2. Informatics related doctoral courses among the selected iSchools

CONCLUSION

The construction of the “Asian informatics” field demonstrates an example of how to incorporate cultural contexts into information research. Integrating a cultural perspective will have multiple benefits: (1) it will promote the diversity and multiculturalism of LIS education, which has been a long-term desire for LIS education in the US (Abdullahi, 2007; Aytac et al., 2016; Jaeger et al., 2011); (2) it improves the competency and competitiveness of information professionals to thrive in the increasingly globalized, multicultural information age; and finally (3) it provides supplemental means and perspectives to facilitate certain fields of LIS research,

such as information ethics, ICT research, and digitalization. The soil for the future information research and profession, the doctoral education in LIS has the potential to extend its curricula to the master's level and increase the efficacy of the MLIS programs. More specifically, it will train the next generation of information professionals with not only the capability of handling technologies and computation, but also an open mind to critically engage with various cultural and societal contexts of information.

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Librarians as Natural Disaster Stress Response Facilitators: Building Evidence for Trauma-Informed Library Education and Practice

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ABSTRACT

Public librarians are on the front line of catastrophic events that, each year, leave millions of people with significant mental health consequences; in the midst of these tragedies, librarians are often called upon to address community needs, often while neglecting their personal hardships. In this paper, we propose research, education, and practice opportunities centered on SOLAR, a community-based therapeutic approach that will allow librarians to recognize and assist patrons with symptoms just short of post-traumatic stress disorder (PTSD) related to natural disasters. This proposed therapy offers public librarians an opportunity to engage with a treatment framework to meaningfully support their patrons while benefiting from the self-care often overlooked in times of crisis. This work may be a template for contextually sensitive, community-facilitated mental health services critical for communities that lack financial and geographical access to larger health infrastructures. We include opportunities for research in librarians' trauma response to inform public librarians' education and practice to improve disaster preparedness and community well-being.

ALISE RESEARCH TAXONOMY TOPICS

continuing education; community engagement; community-led services; curriculum; public libraries

AUTHOR KEYWORDS

community resiliency; disaster response; natural disasters; public librarians; research; stress

STATEMENT OF THE PROBLEM

The United States frequently and increasingly experiences a variety of natural disasters (Coronese et al., 2019). In 2018, natural disasters such as storms, floods, earthquakes, hurricanes, and wildfires led to 355 U.S. deaths and over \$82 billion in property damage (Insurance Information Institute, 2019). However, the emotional toll on residents of the disasters' surrounding communities is largely unexplored. Mental health disturbances following natural disasters, such as anxiety, depression, substance abuse, and stress, are well documented (Acierno et al., 2007; Kessler et al., 2008); disaster-affected individuals may also experience functional impairments and an increase in somatic symptom severity (Pollack et al., 2016). Therefore, the mental health and well-being of community residents demands a localized primary response (Ghorbanzadeh et al., 2020). However, in the absence of clinical diagnoses and large-scale mental health treatment infrastructures, citizens in communities served by small and rural libraries turn to their trusted information source: public librarians. Less clear, however, is how librarians can most effectively respond while attending to their own needs. In this paper, we detail the challenges natural disasters pose for rural communities and outline a promising solution that includes therapeutic assistance and implications for research and education in library and information studies (LIS).

LITERATURE REVIEW

Librarians and disaster response

Public librarians build trust and continuity through resources and services tailored to community needs (Vårheim, 2014). Citizens know to reach out to their librarians for numerous supports: free computer and internet use, quality information, books, databases, and the ability to conduct meetings or accomplish work-related tasks in a safe location (Johnson, 2012). When a disaster strikes and people need relief from their personal emergencies, they turn to the library (Featherstone et al., 2008). Though seeking support from libraries is well established in many communities, librarians' official disaster response role is often unrecognized (Davis & Jankow, 2019). In 1988, the Stafford Disaster Relief and Emergency Assistance Act recognized public librarians as essential community workers for providing services following disasters. However, the Act does not specify how librarians are to function in disaster situations and community practices vary widely (Green & Teper, 2007).

Many survivors of traumatic crises need to share their experiences. Librarians, inundated with victims of catastrophic events, must employ active, empathetic listening throughout their disaster responses, though they may also be disaster victims. Ignoring personal impacts may lead librarians to "vicarious trauma," by repeatedly reliving their own catastrophes when helping survivors cope. As a result, many public librarians report "compassion fatigue" and "survivor's guilt," (Mardis et al., 2019) alienating feelings that can impair daily function.

Library staff face ongoing challenges in their communities with homelessness, drug abuse and overdoses, gun violence, and myriad social and community issues. Those unfortunate enough to be in communities affected by mass shootings must go through simulations and training to give them a sense of traumatic circumstances. Some librarians assist with information resources at homeless shelters or provide services and programs for the homeless patrons at libraries (Anderson et al., 2012). Still others are trained and prepared to administer the intranasal spray, Narcan, to prevent an opioid induced overdose (Wahler et al., 2019). Librarians are first responders now, but without the proper therapeutic training to address stress-related needs. What librarians and libraries provide to their communities following disasters varies widely; the mental support and coping skills librarians need to support disaster survivors and their personal challenges is unclear and requires further research.

Therapeutic responses to natural disasters

In the aftermath of disaster and trauma, many people experience a range of psychosocial difficulties and distress that impair recovery. While there are evidence-based treatments for those who develop psychiatric disorders in the aftermath of disaster, there are no evidenced-based interventions for those who do not meet criteria for disorder but who are experiencing psychosocial difficulties and impairment.

Mental health practitioners have used several psychoeducation interventions in natural disaster affected communities (Forbes et al., 2010; Sijbrandij et al., 2015). Of particular note, the Skills for Life Adjustment and Resilience (SOLAR) program (O'Donnell et al., 2018), developed by trauma experts as a five-session community-delivered program, combines elements of several types of therapeutic approaches to address mental and emotional issues following exposure to a traumatic natural disaster. Unlike these other approaches, SOLAR makes use of local community leaders to deliver the therapy among affected community members, thus building on established trust, cultural sensitivity, and local knowledge. Although developed to target survivors of natural disasters, SOLAR may also be adaptable to additional traumatic events experienced by a large number of people (e.g., mass shootings, pandemics).

In an early Australian SOLAR study involving 15 brush fire survivors and eight community facilitators, researchers documented a decrease in psychological distress and PTSD symptomology (O'Donnell et al., 2018). In Tuvalu, an independent island nation within the British Commonwealth, coaches delivered SOLAR following disastrous flooding resulting from Tropical Cyclone Pam in 2015. In that study, community researchers documented decreases in distress, functional impairment, and PTSD symptoms, with no reported serious adverse events (Gibson et al., 2019). From the initial study data, researchers and community coaches have found SOLAR to be effective, appealing to participants, easy to learn and implement, and safe to deliver by laypeople (Gibson et al., 2019; O'Donnell et al., 2018). Given its effectiveness in

community-based and service organizations, SOLAR potentially offers public librarians a method to support themselves and their communities in times of disaster.

SOLAR LIBRARIANS: A PROPOSED STUDY

SOLAR is an evidence-informed intervention with, as Figure 1 shows, six modules: arousal/affect management, promotion of healthy lifestyle and sleep, worry/rumination management, emotional processing of trauma, promotion of healthy relationships, and behavioral activation and engagement.



Figure 1. SOLAR Program Modules (O'Donnell et al., 2018)

SOLAR is specifically designed to be delivered by individuals who are not mental health professionals and are members of the affected community. These laypeople are referred to as “coaches.” Coaches are trained using a manual with example scripts and justifications for each section of the intervention. Participants are given a highly structured workbook with activities to be completed in-session and at home. SOLAR is appropriate for individuals who are experiencing mild-to-moderate distress or impairment as a result of trauma exposure without meeting criteria for a formal diagnosis.

Building evidence by studying SOLAR

We propose that SOLAR be operationalized with a waitlist control design over one year, in phases, with public librarians in Florida panhandle region who were affected by Hurricane Michael.

Phase I. Recruit, Screen, Train Librarians as SOLAR Coaches (four months). In approximately four months, we will use our local librarian networks to recruit 20 public librarians in the Florida Panhandle region. Librarians will be informed about SOLAR's purpose and components and that they have an opportunity to serve as a coach and deliver SOLAR to other librarians affected by natural disasters.

Interested librarians will then be screened for moderate to severe psychiatric symptoms using the *DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure, Adult*. Screened librarians with symptoms beyond the cutoff will not be eligible to deliver the intervention as a coach and will be provided with referrals to mental health providers or invited to receive the intervention in Phase II. We expect at least half of the librarians to meet the cutoff requirements and become SOLAR coaches. Experienced mental health practitioners will train eligible librarians to deliver the SOLAR in a total of 12 hours, including modules, role-plays, and quizzes to assess the efficacy of training and the competency of coaches. Although this program is voluntary, librarian coaches are provided with stipends during this period to cover the cost of gas or other incidentals required to attend training.

Phase II. Recruit & Screen Participants, Deliver Intervention (six months). In Phase II, about 10 public librarians will be re-informed about SOLAR, with the recruitment focus shifting to librarians who would like to receive the intervention. Interested librarians will be screened for severe psychiatric symptoms using the *DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure, Adult*. Individuals with symptoms above the cutoff will not be eligible to receive the intervention and will be provided with referrals to mental health providers. Librarians will be recruited as participants, with each Phase I-trained librarian delivering five weekly interventions to three participants, for a total up to 30 participants.

We will use a waitlist control design, often used in psychotherapy research, to deliver the intervention, assessing cohort baseline in Week 1 of Phase II. We chose this design because it allows us to bypass having a control group which does not receive the intervention; librarian participants on the waitlist still receive the SOLAR intervention at some point after the initial treatment group, while allowing the study to benefit from a modified control group. Cohort 1 will proceed with the intervention, and subsequent cohorts begin treatment when the previous group has finished.

For each cohort, follow-up data are also collected three months after the intervention has concluded. Therapy specialists will supervise coaches to ensure intervention fidelity. Following delivery of the intervention, the research team will collect unstructured, qualitative feedback from coaches and participants to assess the feasibility and acceptability of the training and intervention.

Phase II is long enough to ensure that five weekly interventions are delivered to each participant, supervision of coaches is adequately scheduled, and time is permitted for any required makeup sessions needed by SOLAR coaches. In this phase, librarian coaches receive

incentives for all five weekly interventions delivered to each participant, while participants receive stipends for their attendance once all sessions have been completed, plus an additional stipend when participants complete the three-month follow-up.

Phase III. Data Collection and Analysis (ongoing; 12 months). We will collect data at baseline, immediately post-treatment, and at three months afterward using the *Action and Acceptance Questionnaire* (AAQ), *Pittsburgh Sleep Quality Index* (PSQI), *Pittsburgh Sleep Quality Index, Addendum for PTSD* (PSQI-A), the *Pre-Sleep Arousal Scale* (PSAS) the *PTSD Checklist for DSM-5* (PCL-5), *Psychological Outcomes Profiles Questionnaire* (PSYCHLOPS), and *Kessler Psychological Distress Scale* (K10). We will conduct an analysis of variance (ANOVA) to determine whether the intervention improved participants' PTSD symptoms in the 3-point time series. Phase III data collection is conducted throughout the entire process and up to 3 months after the last intervention to conclude data analysis and study findings.

IMPLICATIONS FOR EDUCATION AND PRACTICE

Adapting SOLAR to library practice

We propose to use SOLAR as a community-based model that can be administered to librarian coaches, who then take the learned strategies and use SOLAR with patrons in their communities. SOLAR can also be built into existing disaster response training such as the Department of Homeland Security (2019) Community Emergency Response Team (CERT) training which includes a unit on disaster psychology and considers that events resulting in potential injury or destruction of homes can lead to traumatic crisis and stress that affects cognitive functions, physical health, and interpersonal relationships.

Librarians are well-positioned to be SOLAR coaches because they may already be involved in disaster efforts, are community insiders, and have experience delivering programming. A SOLAR intervention for librarians and library patrons includes four steps:

- 1) Adapt SOLAR for librarians and patrons. The first step involves interviews with the librarians on their experiences, personal therapeutic needs, and professional support needs, followed by pre-test data collection and therapeutic activities in six areas drawn from the SOLAR program. The key areas include arousal/affect management; promotion of healthy lifestyle and sleep; worry/rumination management; emotional processing of trauma; promotion of healthy relationships; and behavioral activation and engagement. A participant workbook includes activities for the sessions and follow-up home activities. Step 1 concludes with a post test and participant feedback on the usefulness of the therapy and improvements for more effective delivery.

- 2) Develop instruments and manuals. In this step, a co-construction of knowledge as the therapy is refined using the feedback from the previous step, culminating in the development of a coaching manual with each section of the therapy and example scripts. Step 1 participants recruit

co-workers and community members for the therapy, providing pre-tests. Step 1 participants engage as coaches and deliver the therapy to the recruited members in their community. Step 2 includes post-tests and participant feedback on the efficacy of the therapy, as well as interviews with the coaches using their co-constructed knowledge as both participants and coaches for possible improvements to the framework. Of importance in this phase is that co-construction of knowledge includes participating librarians, researchers, and trained SOLAR therapists, so that library practice and research requirements are satisfied in the developed intervention.

3) Refine instruments and manuals. This step involves analyzing the results, drawing conclusions, refining a therapeutic model, and distributing updated materials for continued support and implementation.

4) Continue to build a SOLAR research base. Beyond the pilot study described in this paper, SOLAR gives researchers an opportunity to collaborate across disciplines, allowing medical, public health, social work, and LIS researchers to develop larger innovative proposals for cognizant funding agencies such as the Institute for Museum and Library Services (IMLS) and the National Institutes of Health (NIH). These collaborations would be especially helpful for identifying ways in which SOLAR can be scaled to be systematically implemented within a library system or across community organizations.

Building SOLAR into library education

For librarians, coach training will emphasize building their skills in understanding disaster reactions along, with other key ACRL and PLA competencies such as verbal and nonverbal communication skills; active listening; empathetic service; and comfort with open-ended questions.

Though certificates are available in disaster management and courses accessible in health librarianship, future information science professionals are not always prepared for the mental stresses associated with the duties of librarians in the current society. Coping strategies akin to those reflected in first responder training or counseling coursework is lacking from current curriculum in accredited LIS graduate programs. SOLAR training is well-suited to be the basis for a certificate program and/or a meaningful program of professional learning for preservice and in-service librarians. While there is evidence that SOLAR is extensible to many natural disasters, its care principles may apply to therapeutic responses to bullying, violence, economic stress, and pandemic responses.

Practitioner preparation

There are several programs available as professional development courses, including Psychological First Aid (PFA) and Mental Health First Aid (MHFA), to help people respond to mental health circumstances and de-escalate traumatic situations. The programs are optional,

though many library directors across the country have arranged for staff training. Other organizations have information available to disseminate to patrons on a variety of mental health topics. However, a missing component are coping strategies for the information professional to reflect and nurture their own mental health processing; SOLAR provides this self-care.

CONCLUSION

Training librarians to be trauma response facilitators is critical. In our proposed study, we aim to 1) engage public librarians as SOLAR beneficiaries and coaches; 2) facilitate public librarian SOLAR coaches to deliver intervention to affected librarians; and 3) refine the SOLAR model for implementation by additional librarians in more communities. The proposed approach will yield new knowledge and evaluation data on SOLAR's effectiveness as a unique disaster response model with public librarians as community hubs of mental health and well-being immediately and over time.

The proposed study will consider the efficacy of building a therapy program of community care, providing needed coping skills and therapeutic strategies to regional librarians, who will in turn share it with community members. Findings may lead to a refined therapeutic model that could be used in library information graduate programs and better prepare future librarians to deal with the stresses of possible traumatic events occurring in the daily operations of libraries throughout the country. While SOLAR has only been used to treat survivors of natural disasters, it may also be appropriate for librarians who are experiencing effects from service during a pandemic or violent event.

A trauma-informed approach generally means understanding that library patrons may have experienced trauma and working with them to engender trust in libraries. Adopting trauma-informed approaches reduces barriers to library access, makes the library a more welcoming place, and positions the library as part of the solution for many of the issues faced by patrons experiencing trauma.

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Graduate Student Use of and Preference for Unlimited-Use eBooks as Textbooks: Preliminary Results

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ABSTRACT

This study investigated the preference of master's level library science graduate students for required textbooks in print or unlimited-use ebook format in the context of alternate educational materials provided by the university library. Surveys with both fixed-response and open-ended questions were completed as a class exercise by 151 students enrolled in four sections of a collection management class and four sections of a research methods class. Results show a strong preference for print but indicate that cost to students influences etextbook use.

ALISE RESEARCH TAXONOMY TOPICS

students; pedagogy; online learning; academic libraries; print culture; information use

AUTHOR KEYWORDS

e-textbooks; textbook format; student textbook preference; open educational resources; alternative educational resources

GRADUATE STUDENTS USE AND ACCEPTANCE OF EBOOKS

Although there is a modestly robust body of research in the broad area of the use or acceptance of ebooks, there is very little research on graduate students' use or acceptance of ebooks in general or of etextbooks specifically. Despite the obvious connections between professional librarians and ebooks, there also seems to be no research about Library and Information Science (LIS) graduate students' use or acceptance of ebooks or of etextbooks.

Mercieca's (2004) study of graduate students' acceptance of etextbooks is one of the earliest in this specific area. Nelson and Webb (2007) studied undergraduates' use of etextbooks in 2007 using Davis's technology acceptance model (TAM). Wu and Chen (2011) researched differences in graduate students' preference for and frequency of use of ebooks across disciplines. Shin's (2014) research included both undergraduates and graduates with the specific purpose of increasing ebook usage. Smith, Rodriguez, Miller, & Xu's (2019) study examined

undergraduate students' preferences for etextbooks, also for the purpose of increasing library etextbook use, using UTAUT.

There are clear reasons why the more recent work in this area is the most important to the current study. In 2004 ebook readers still needed refinements of screen technology that would make them easy to read. Mercieca (2004) also reminds us that, at the time, ebooks being published tended to be publications prepared for print production and reading and that have been digitized rather than prepared for electronic production. By 2011 when Wu and Chen's study was published, we were reading on our phones, something we could not do in 2004 when Mercieca did his work. Even since 2014 there have been significant advances in ebook technology in terms of improved screen readability, less eye strain, improved navigation and search functionality, the use of electronic media to enhance the content. Thus, Yoo and Roh's (2019) and Smith et al.'s (2019) studies of etextbooks are the most important to the current study, even though their study included few and no graduate students respectively.

Advantages and Disadvantages of Etextbooks

The advantages and disadvantages of etextbooks reported by participants in previous existing studies of etextbook adoption and use among graduate students are not surprising and fit with these authors' experience and anecdotal evidence gained from both the practice of librarianship and teaching in LIS programs. The advantages of using etextbooks in the literature are: the ability to use text-to-speech functionality built in to ebook platforms and readers, they provide personalizing functions, and promote active learning (Shin, 2014); convenience of access, easy to save, duplicate, and print, environmentally friendly, permit simultaneous use, convenience of bibliographic management (Wu & Chen, 2011); electronic media can enhance content and provide enhancements to navigation through linking (Mercuria, 2004); they are key word searchable (Shin, 2014; Wu & Chen, 2011).

The disadvantages of ebooks in the literature include: inability to annotate, inability to download for offline reading, difficulty in finding on library website, may require software installation (Wu & Chen, 2011); high cost of ebook purchase (Mercierca, 2004); limited selection of ebooks, limitations to reader privacy, poorly designed user interfaces, high cost of ebook readers (Shin, 2014); as well as potential discomfort when reading e.g. eyestrain (Shin, 2014; Wu & Chen, 2011). Several of the disadvantages of ebooks, particularly those from the earlier studies, are no longer disadvantages or as disadvantageous today as they were when the study was published.

Preference for Print

The preference for print over electronic textbooks is something that has not changed in the past two decades despite improvements in the ebook technology. In Mercieca's (2004) study, the graduate students used and compared several formats of etextbooks one of which was PDF. All the students in this study printed the PDF to read because they perceived it as easier, more portable, and more annotatable. In the same study two key criteria students mentioned that would persuade them to use an etextbook were saving money and the use of electronic media to enhance the content. "All members of the focus group indicated that they would purchase the printed textbook. Issues related to portability, ownership and interaction with the text (i.e.

underlining and annotating the text) were offered as reasons for the preference of the printed textbook” (Mercieca, 2004, sec. “Format vs. Content”).

Students in Nelson and Webb’s (2007) study reported that printed textbooks were both easier to understand. Almost all students in Wu and Chen’s (2011) study indicated they wanted access to both print and electronic versions of textbooks. But librarians tend to favor only a single format rather than duplicating resources in print and electronic (Wu & Chen, 2011). Students in this study also favored increasing ebook collections in libraries, monographs as well as. In Shin’s (2014) study 47.5% of graduate student preferred print.

Models of Ebook Adoption

Nelson and Webb (2007), Smith et al. (2019), and Yoo and Roh (2019) made use of theoretical models to frame their research. Nelson and Webb used the technology adoption model (TAM) and Yoo and Roh (2019) and Smith et al. (2019) used the unified theory of acceptance and use of technology (UTAUT). TAM is a predecessor of and is incorporated into UTAUT. Both theories use statistical modeling to identify predictors of ebook use. Both focus on the concepts of perceived ease of use, perceived usefulness, and intention to use ebooks.

Beliefs are key perceptions formed by a user when considering use of a new technology that are formed based on external and internal forces at the (1) individual level based on experience and (2) the social level based on culture, organizational policies, and group norms (Christensen, 2013). Perceived usefulness is one of two key user beliefs about a technology, it is “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989, p. 320). Perceived ease-of-use is the other key user belief about a technology, it is “the degree to which a person believes that using a particular system would be free from physical and mental effort” (Davis, 1989, p. 320).

The TAM model predicts that the user’s intention to use a technology is a strong determinant predictor of actual use (Christensen, 2013). In particular, ease of finding and ease of understanding are significant predictors of ease of use (Nelson & Webb, 2007) and perceived ease of use “with regard to digital textbooks has positive impacts on users’ intention to adopt them” (Yoo & Roh, 2019, p. 137). The UTAUT model is similar to the TAM but incorporates additional predictors of preference for and attitude toward ebooks including social influence, which Smith et al. (2019) found to be significant predictors.

In Nelson and Webb’s (2007) study perceptions of usefulness accounted for 23% of this variable, thus there are likely to be other influential variables that significantly predict ebook recommendations including, the authors surmise based on qualitative data from the survey, interactions with content like quizzes, flash cards, and online activities recommendation (Nelson & Webb, 2007). They also suggested that instructors might influence ease of use. “While separate ANOVA analysis indicated significant differences between the four instructors regarding ease of use, ease of finding, ease of understanding, and usefulness, moderated regression analysis did not show any significant instructor effects” (sec. Discussion and Implications).

Yoo and Roh (2019) found that while neither age nor gender significantly influenced perceived usefulness or perceived ease of use, prior experience with etextbooks was found to influence the intention to use etextbooks). Wu and Chen’s (2011) results suggest that reading behavior differed among students based on the format of the textbook. With ebooks students did

more skimming around, e.g. keyword searching and reading of text surrounding the key word rather than reading linearly from start to finish (Wu & Chen, 2011).

METHOD

Data collection took place in two different required courses in the professional librarian preparation program of a comprehensive regional university located in the American Midwest. This program employs a cohort model in eight regional locations in the western US and each required course is taught using a hybrid instructional model with 20 hours of instruction presented in face-to-face weekend intensives and the remaining instruction delivered online using the Canvas content management system. Cohorts in different locations start in either fall or spring semesters, so in any one semester there may be four or more sections of a course in different locations.

All the participants in the survey were in their second and final year of the master's degree program and were judged to be technologically competent, based on completion of a required technology preparation course during their first semester, and by the fact that technology was infused throughout the curriculum. All enrolled students in the class completed the survey with only a single instance of the final fixed-response item being missed. No demographic data was gathered on the study participants in either semester.

The survey was administered on the Survey Monkey platform, using a subscription account with advanced features, and consisted of both fixed-response and open-ended questions. It was administered and then discussed as part of the learning activities in each course.

The first data collection (Fall 2019) took place in a collection development and management course. All four sections of the course were taught by the researchers and the survey was conducted as an activity during the second face-to-face weekend, which occurred toward the end of the semester. This course was selected because the principal required textbook had been purchased in ebook format in response to faculty request. It was made available as an unlimited-use ebook (with printing and download limits) through the university library's web portal. In the previous spring semester the library had begun an experimental program of purchasing unlimited-use ebooks as part of the university's commitment to open and alternative access materials, with the library science program serving as a test case because of the widely distributed nature of its student body. The second required textbook was not available as an ebook from the library but was available through the library in print.

At the start of the semester, this second textbook was not available as an ebook at all, but soon thereafter became available as a single-use ebook. The researchers were not aware of this until during the data collection. For the spring 2020 data collection an additional question was created to investigate how students accessed the second textbook.

Data collection took place as an in-class activity, where the students were made aware of the purpose of investigation. Students (N=81 [19, 24, 24, 14]) accessed the online survey and were given 30 minutes to complete it. At the end of the data gathering, the class results were displayed and formed the basis of discussion on preferences for ebooks as textbooks. Sections with later meetings were able to see their own class results and the summary results to that point. Students were also encouraged to offer suggestions for improving the survey, although the survey remained constant through all four administrations.

In spring 2020, with collaboration from another faculty colleague, four more sections from a course in research methods took the survey. These classes were from different cohorts, so none of these students had participated in the fall data collection. Again, the principal textbook had been purchased as an unlimited-use ebook, available through the university library. The second required textbook was available through the library electronically with a three-user license, and the course instructors agreed not to request the library purchase this, because of potential problems with availability with four classes trying to access this at the same time. However, because this book was available to students as an ebook, an additional fixed-response question was added to the survey to discover how students chose to access that particular text.

The administration of the survey during the spring semester was slightly different, as the second intensive weekends were conducted in real time but virtually because of the Covid-19 pandemic. Students (N=70 [24, 16, 18, 12]) were asked to complete the survey prior to the abbreviated synchronous online weekend intensives. Students were still able to see their own class results as well as summary data of previous survey participants. Again, students were invited to suggest improvements to the instrument, although the questions remained the same as the fall administration except for the added fixed-response question previously mentioned.

Data were downloaded from the Survey Monkey website and the fixed-response question data collated in an Excel spreadsheet for analysis. Only the fixed-response data analysis results are reported here. The fixed-response question data were analyzed in individual cohort classes, by each course (Collection Development and Research Methods) and as a whole.

RESULTS

The first question asked how many students used only the unlimited-use ebook, how many used only a printed version, and how many used both. Overall 48% of respondents reported using only the ebook (fall 42 % / spring 54%), 36% used only the print book (fall 36 % / spring 36%) and 17% used both the ebook and the print version (fall 22 % / spring 10%). Sixty five percent of students used the ebook either exclusively or in conjunction with a printed text (fall 64 % / spring 64%).

Question two asked how those who used a print version obtain the print copy. More than half the students used the print version exclusively or in conjunction with the ebook (54% - fall 58 % / spring 49%). Of those who used the print book, 62% (fall 57% / spring 68%) purchased a copy either new or used, 12% (fall 19% / spring 3%) borrowed a copy from a library, 1% (fall 0% / spring 3%) borrowed a copy from another student or elsewhere, and 25% (fall 23% / spring 26%) reported renting a copy from a university bookstore or online source.

The third question asked students to declare a format preference. The ebook format was preferred by 24% of students overall (fall 20% / spring 29%), print was preferred overall by 46% of students (fall 46% / spring 47%) and 30% of overall students expressed no strong format preference (fall 35% / spring 24%).

Question four asked about the role played by the cost of the textbook in the decision to use or not use the ebook. Approximately one quarter of the students (26% - fall 26 % / spring 26%) reported that cost was not a factor in their decision as they were comfortable with ebooks. A larger group (34% - fall 32 % / spring 37%) indicated that cost was a deciding issue and that they would have preferred a print copy but used the ebook because it was available. The largest

group (40% - fall 42 % / spring 37%) said that cost was a concern but that their preference for print led them to obtain a print copy.

The fifth question sought to discover how students accessed the ebook and multiple answers were permitted. Of the 67% who accessed the ebook (fall 68 % / spring 66%), the largest number (87% - fall 84 % / spring 91%) used a laptop computer. A desktop computer was the next most used method (41% - fall 36 % / spring 46%), with phones and tablet computers showing similar usage: phone – 28% (fall 31 % / spring 24%); tablet – 27% (fall 33 % / spring 20%). Other devices accounted for 2% of ebook access (fall 4 % / spring 0%).

In the spring administration a sixth closed-choice question was added to discover how the students accessed the second required textbook that was not provided as an ebook by the university library. The majority of students (61%) purchased the book, 13% rented a print copy, 10% purchased their own ebook version, 6% reported renting an ebook version, 4% borrowed a copy from a library, 1% borrowed a print copy from another student, and 4% reported obtaining a copy by some other means. One student did not respond to the question.

DISCUSSION

The findings of this study match those of earlier studies, but also reveal new insights. The preference for print discovered (46%) aligns with the findings of Shin (2014). This may suggest this is a consistent preference or may be attributable to the more homogeneous nature of this particular graduate student population who, as librarians, may be more inclined to prefer print.

The role of cost to students in ebook usage is important, with 34% reporting they used the ebook to save money, despite their preference for print. This aligns with Mercieca's (2004) results where graduate student respondents reported that despite a preference for print, they would choose to purchase the ebook if its cost were one third of the cost of the print. Also, the number of students who used both formats (17%) suggest they may use different formats for different purposes or in different situations.

Although 29% of the spring respondents favored ebooks, only 16% chose to access the second textbook this way by purchase or rental. A restriction to the Kindle format may offer some explanation and indicate that ebook format as well as price may influence usage.

The usage question shows that students employ a variety of devices for reading with static devices (desktop computers) employed by fewer than half the users. One suggestion from the respondents was to include an indication of time spent on each type of device to allow a better understanding of how ebooks are being used as textbooks. More investigation is needed to probe the mobile nature of learning and the way ebooks promote or influence this.

CONCLUSION

The intent of this study was to assess graduate students' preference for and usage of ebooks provided in the context of a university commitment to open and alternate educational resources. Broad analysis of fixed-response data suggest that print preference remains but that cost may override format preference for some. Analysis of the open-ended questions may shed more light on graduate student usage of etextbooks. A report on this is forthcoming.

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Chat Reference in the Time of COVID-19: Transforming Essential User Services

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ABSTRACT

Reference is an essential service for academic libraries, whether or not face-to-face communication is possible. This research explores the impact of the COVID-19 pandemic on academic library virtual reference services, especially live chat. Through analysis of interviews and a national survey of librarians responsible for adapting their institution's response to physical service closures and reductions, this investigation aims to understand how COVID-19 transformed chat reference, and how users responded to new and evolving services.

ALISE RESEARCH TAXONOMY TOPICS

information services; information practices

AUTHOR KEYWORDS

chat reference; user services; COVID-19; qualitative methods; surveys; interviews; academic libraries

INTRODUCTION AND PROBLEM STATEMENT

The impact of the COVID-19 pandemic on academic library services has been sudden and extensive. As many colleges and universities rapidly moved classes online, academic libraries across the U.S. swiftly switched to online only delivery of reference services (Hinchliffe & Wolff-Eisenberg, 2020). This research seeks to explore the impact of the pandemic on academic library virtual reference services, especially live chat. Through a survey and interviews with librarians responsible for adapting their institution's response to physical service closures and reductions, this investigation aims to understand how academic librarians started, continued or increased chat reference services, and how users responded to those services as face-to-face interactions became more restricted or impossible.

Chat reference is well-positioned to be a part of the continuing pandemic response plan for libraries as they seek to serve users in a variety of circumstances, but there are still questions

about what is required to ensure that chat services are prepared to meet the developing needs of libraries and their scholarly communities. This research fills a gap in the literature addressing user-facing responses to library physical closure scenarios and aims to help library administrators and librarians position chat reference services to support online instruction and research during physical service closures.

Disaster planning is not part of the core curricula for a majority of American Library Association accredited library programs (Zach & McNight, 2010) and education around leadership for maintaining user services may be even less common (Alajmi & Al-Qallaf, 2018), but the recent pandemic response demonstrates that planning for such disruptions is not only for librarians overseeing physical collections, but also for digital access and user services. This paper explores libraries' responses to an unanticipated shift in service delivery in order to contribute to the disaster planning literature for practicing librarians, as well as for Library and Information Science faculty teaching basic and advanced courses in information services.

LITERATURE REVIEW

Synchronous virtual reference services are an important part of research support in academic libraries. Since libraries began adopting these systems in the early 2000s, they have become a regular service delivery channel for libraries. Catalano et al. (2018) surveyed the websites of 100 Association of Research Libraries (ARL) member institutions and found that 91 percent offered synchronous virtual standalone chat or reference chat integrated into social media channels. There is evidence that emerging active and proactive chat delivery channels can increase the number and complexity of virtual reference transactions (Bandyopadhyay & Boyd-Byrne, 2016). Convenience is also a primary factor for those selecting virtual reference services (Connaway, Dickey, & Radford, 2011) and research has confirmed that users find chat reference easy to use and available at the point of need (Mawhinney, 2020). Fundamentally, chat reference service is well-adapted to the online-only environment compelled by physical library closures in response to COVID-19, although the accelerated transition to fully online service delivery required to "flatten the curve" (Haelle, 2020) made it challenging for libraries to rapidly transform user services.

Planning and education can help libraries transcend basic service maintenance and move toward continuity of services and preservation of mission (Halsted, Clifton, & Wilson, 2014). Since reference and instructional support are core services in academic libraries, advance planning should take place to deliver and adapt such services in anticipation of possible crises. An example of this is apparent in public library responses to hurricanes Katrina and Rita, both occurring in 2005. Zach and McNight (2010) found that libraries not only maintained essential services; nearly 30 percent of the Florida Gulf Coast libraries they studied added new information services in response to user needs during these crises. In this case, critical user needs in the moment of crisis helped shape innovative user services. The rapid library response to COVID-19 may have a similar impact on user service. This research seeks to understand how academic libraries acted to meet user service needs and expectations and to continue to provide uninterrupted and high-quality user services during the pandemic with the aim of building better

crisis response plans and educating future librarians to adapt user services in times of an unprecedented global health emergency.

This study is informed by a large body of extant literature that examines organizational communication during national and global crises. Governments and aid agencies may use social media to share information and communicate with people (Bright, 2011), often to enhance situational awareness (Oh, Agarwal, and Rao, 2011). Digital platforms such as Twitter afford opportunities to provide real-time information that fosters partnerships between various actors such as governments, communities, and individuals (Panagiotopoulos, Bigdeli, & Sams, 2014). However, such communications may be rife with misinformation, and researchers caution that digital platforms should be one part of a larger work plan given their vulnerabilities (Panagiotopoulos et al., 2014). Further, Mahrt and Puschman (2012) point out that people's interactions with online platforms during crises may benefit from direct interactions and discussion.

Crisis communication literature that focuses on responses to global disasters tends to focus on social media use above other forms of digital communication, such as live-chat encounters (e.g., Abdulhamid, Ayoung, & Kashewfi, 2020). Limited work that engages with libraries centers how librarians use platforms like Twitter to respond to disasters such as hurricanes (Han, 2019). Soehner, Godfrey, and Bigler (2017) discuss the role of library crisis communications in the context of a library bedbug infestation. In this case, chat reference served both as a method for providing accurate information in one-to-one encounters and as a way to provide services during library treatment closures. Jaeger, Langa, McClure, and Bertot (2007) also mention chat reference as one of the many myriad ways Gulf Coast public libraries communicated with patrons and aid agencies during the 2004/2005 hurricane season. Limited literature addresses how virtual reference might function during global crises such as the COVID-19 pandemic.

Further, this study is theoretically grounded in Goffman's (1967; 1959) work in relational communication, facework, and impression management. Connaway and Radford (2011) and Radford (2006) applied Goffman's framework to LIS problematics and found that live chat reference is concerned with building virtual relationships in addition to responding to information or instructional needs. The relational, affective aspects of service were also found to be critically important to users of live chat reference. This theoretical approach allows space for investigating the relational dimension of the user experience. For example, to focus on questions such as: In times of crisis, what is the relationship between information and relational needs? How might reference encounters transform during crisis situations? What impact did the COVID-19 pandemic have on the interpersonal communication behaviors of users and librarians?

RESEARCH QUESTIONS

As a result of the literature review in LIS and in crisis communication, as well as taking a theoretical stance from Goffman (1967;1959), the following research questions were developed: RQ1 What has been the impact on academic live chat reference services due to the COVID-19 pandemic?

RQ1a. What plans/policies did libraries have in place for crisis planning for reference services, including virtual services? Were these adequate?

RQ1b. What changes have libraries put in place regarding virtual reference services to respond to the pandemic?

RQ2 How have questions to live chat reference services changed during the pandemic?

RQ3 What changes have taken place, if any, during the pandemic in the experience of live chat reference encounters, especially relating to relational aspects from the viewpoint of librarians and service users?

METHOD

To investigate the above research questions, a mixed methods design has been used with two simultaneous data collection methods: a) 25-30 semi-structured qualitative interviews with academic librarians who have direct responsibility for live chat services during the COVID-19 pandemic (e.g., Heads of Reference, Heads of Chat Reference Services, Associate Directors for User Services); and b) a national survey aiming for 250-300 academic librarians directing or engaged in live chat services during the coronavirus pandemic. Both interview and survey participants will include university, college, and community college librarians. Interview participants will be recruited through a snowball sampling technique, personal contacts, and from academic library listservs, and will be compensated with a \$30 gift card for their time. Survey participants will be recruited through academic librarian listservs, library websites, and snowball sampling. They will be compensated by being entered into a random lottery for four \$50 gift cards.

The 25-30 interviews will be conducted by three interviewers, via phone or video conferencing (i.e., Skype or Zoom). Interview questions will focus on what changes have occurred in academic library chat services since March 2020, due to the COVID-19 pandemic, including staffing, professional practice, hours of operation, frequency and types of reference questions. They will also focus on relational dimensions relating to their experience and that of the service users. The interviewers will record the responses using Zoom recording, Skype transcription, or note taking.

The survey will be developed using Qualtrics software. It will contain demographic and quantitative, as well as open-ended qualitative questions focusing in the same areas as the interview questions

Data analysis for the interviews and the qualitative survey questions will be done inductively via the constant comparative method (Charmaz, 2014) and NVivo software, using iterative open coding to identify themes and illustrative quotations. Quantitative data analysis, including descriptive statistics, will be computed through use of Qualtrics and SPSS software. Data collected from this mixed methods design will triangulate findings, to ensure greater validity and trustworthiness of results. This research is in progress with data collection for the survey and interviews taking place concurrently. The data analysis and write up of the full paper will be completed by fall 2020.

CONCLUSION

The disruption to academic library reference service caused by the COVID-19 pandemic has been unprecedented in modern U.S. history. The closure of university buildings to protect staff from infection has dramatically curtailed in-person reference suddenly and for an indeterminant time. Virtual reference, including live chat services, offers a well-developed and robust alternative to face-to-face interactions when such communication is dangerous or restricted. The implications of COVID-19 for the library profession and librarian education are significant. Incoming and current academic librarians must have the preparation and leadership skills to manage rapid service transitions in times of crisis. It is important that academic librarians maintain user-facing services, support their institutions, strive for equitable service, and demonstrate sensitivity and compassion to individuals in the midst of stressful situations. This research will chronicle this unprecedented closure of physical library spaces across America and document how those managing live chat reference responded to the pandemic and how they strove to transform and maintain essential service to academic users struggling to adapt to a new, totally online, educational reality.

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Transforming Information Literacy Education: Information Literacy Landscapes

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ABSTRACT

This paper presentation discusses the results of a study to understand academic librarians' understanding of information literacy as a social practice in order to ascertain where they stand in Lloyd's (2017) midrange model of information literacy. An open-ended questionnaire was distributed to practicing academic librarians. From their answers, selected participants were chosen for follow-up answers. This grounded theory study aims to help LIS educators understand the current understandings of information literacy practitioners in order to bridge the theory to practice gap as well as help pre-service librarians prepare to enter their future communities of practice.

ALISE RESEARCH TAXONOMY TOPICS

information literacy; academic librarians

AUTHOR KEYWORDS

information literacy landscapes; academic librarians; exploratory study; practice theory; social practice

LIBRARIAN UNDERSTANDINGS OF INFORMATION LITERACY AS A SOCIAL PRACTICE

When acknowledging the gap between theory to practice in information literacy instruction, Todd (2017) called for a deeper understanding of information literacy in order to move forward in a sustainable fashion. He encouraged us to “unpack underpinning assumptions and beliefs about the nature of knowing, information, and how people engage with it, and to not assume that a one-size-fits-all approach is the way forward” (p. 132). Lloyd's (2017) model of information literacy and call for subsequent understandings of the information literacy landscape appears to be one answer to this call. Her model allows for both practitioners and researchers to engage with a common information landscape (Lloyd, 2010).

Lloyd's conceptualization of information landscapes requires a sociocultural view of information practice. This means that information literacy is socially constructed and influenced by dominant discourses. This conceptualization finds itself in the *Framework for Information Literacy in Higher Education* (Association of College and Research Libraries, 2015), but is largely unexplored due to the insular nature of how the *Framework* was received (Beatty, 2014). Foasberg (2015) provided a thorough examination of this shift in pedagogical thinking through a comparison of the *Information Literacy Competency Standards for Higher Education* (Association of College and Research Libraries, 2000) with the *Framework*. Her analysis provides a starting place for beginning to understand part of the current theory to practice gap.

METHODOLOGY

Participants in this study were surveyed using an anonymous questionnaire that was distributed to multiple listservs in the spring of 2020. Grounded theory coding methods were employed to analyze the survey data (Charmaz, 2014). Secondly, theoretical sampling (Moore, 2014) was used to identify participants for semi-structured interviews and member-checking. The use of grounded theory in this study is a response to Hicks' (2018) call for grounded theory research of information literacy.

Two rounds of soliciting participation have resulted in 204 responses, with open-ended questions being completed by 87 participants. Of those, 46 have agreed to in person. Participants are academic librarians with responsibility for instruction. The conferrals of their MLS (or equivalent) degree ranges from 1972 to 2019. The vast majority are from doctoral-granting institutions, but there is also representation, spread pretty evenly, among community college, undergraduate and master's level institutions. Urban, suburban and rural institutions are also represented in this data. Number of students ranged from 2000 – 62,0000 FTE.

IMPLICATIONS FOR LIS EDUCATION

The current trend in LIS education to frame information literacy as a set of skills propagates the very theory-to-practice gap that has been identified. Lloyd's (2017) mid-range theory and model of information literacy helps us position practicing librarians within the landscape of information literacy so that we can begin to close that gap. Additionally, use of this model could make theory relevant to practice by positioning the skills approach as one small part of the overall approach to information literacy in higher education.

The findings of the study will provide scholars and LIS educators with an understanding of where practicing librarians stand within the information landscape. LIS education could, with the results of the study, begin meet the practitioners where they are. From that place, professional development could be created (using the methods that Todd (2017) provides) to begin to close that gap in a research-based way. Furthermore, LIS educators could use this model as a way to help novice practicing librarians engage in meaningful conversations with librarians that are already experts in the community of practice that is an information literacy instruction team within their library.

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New Ways of Teaching Library Service to Immigrant Communities

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ABSTRACT

Outreach to immigrant communities is a long-standing aspect of United States (U.S.) library service. This area of library and information science (LIS) practice is vital given that immigration continues to dominate policy and public discourse. There is a need to advance U.S.-based LIS education so that new library professionals are aware of the sociopolitical implications of engagement with immigrant communities. We introduce a framework to guide instruction on best practices for outreach to immigrant communities within LIS courses. Then we describe how the framework will also inform a self-paced course to welcome immigrant populations into the LIS professions. By calling for deeper, humanizing pedagogy, this paper aligns with the 2020 ALISE Conference theme of "Transforming LIS Education in an Interconnected World." Though based on the U.S. context, the framework is applicable to other countries.

ALISE RESEARCH TAXONOMY TOPICS

information rights; specific populations; social justice

AUTHOR KEYWORDS

education programs/schools; pedagogy; inclusion; representation; specific populations: immigrants; library and information science

INTRODUCTION

According to the U.S. Census data, one in every seven people in the United States is an immigrant. The U.S. is currently home to the world's largest and most diverse composition of people, including approximately 19% of the worldwide 244 million immigrants. This amounts to 46 million newcomers originating from every nation in the world. Most Americans can trace their familial ties to other nations (Grieco, et. al, 2012).

Immigrants are essential library constituents. For more than a century, America's libraries have provided exclusive services to immigrants. Many of the programs that define libraries—from children's storytime to job-seeking courses—originally began as ways to support new members of their communities (Buck, 2006). This area of LIS practice is a source of professional pride. As Koerber (2018) writes, "As long as libraries have been 'free to all', as the front of the Boston Public Library proudly proclaims, they have provided some kind of service to newcomers to this country."

RATIONALE

Arguably, outreach to immigrant communities has gone unscrutinized in comparison to other areas of the LIS profession. Immigrant services aligns with the field's commitment to diversity and inclusion; yet, there is an ironic lack of diversity and inclusion in consideration of immigrants. Librarians grant disproportionate attention to some immigrants while overlooking others (Burke, 2008; Ndumu, 2020). We see this in the homogenization of descriptions of immigrants, as evident through the frequent conflation of the terms "immigrant" and "Hispanic" (that is, Spanish-speaking). Often, entire immigrant groups are ignored in LIS discourse, and even the ethnic variance among Spanish-speaking groups goes unmentioned. There is a need for training that acknowledges the vastness among new Americans, including:

- immigrants of color such as Asian, Black, or Latinx (from Latin America, regardless of language) diasporic groups
- those who are forcefully displaced such as refugees and asylees
- religious minorities, including Muslim immigrants
- those belonging to relatively new immigrant groups - for instance, Sub-Saharan Africans who, according to census data, currently comprise the fastest-growing immigrant group (U.S. Census Bureau, 2019)
- those who are of Hispanic, Francophone, or other linguistic heritages and for which English is a new language
- those who have not obtained authorized permanent residence such as TPS holders, DACA recipients, and undocumented immigrants

The range of immigrant types along with pre-migration information environments are rarely accounted for in LIS instruction, according to a canvas of available online LIS syllabi. In addition, content on library outreach to immigrants is mainly relegated to abbreviated units within foundational diversity courses.

This combination of unawareness, immigrant typecasting, and content brevity has culminated in predictable, prescriptive efforts - for example, English language education, citizenship preparation, and cultural programming. Though essential, these endeavors discount community members' capacities and the dynamic role of information in migration. There is little regard for members' lived experiences, particularly in light of the current tense sociopolitical landscape. Despite calls for works that introduce diasporic and contextual insight (Srinivasan & Pyati, 2007), there has been little connection to LIS education specifically in the U.S. context.

In response to these gaps, we present the H.E.A.R.T. Framework, a social justice oriented approach for advancing education for future LIS professionals. Library service to immigrants must connect to policy, push/pull migration dynamics, and social inclusion. Over the

next year, we will test the framework through a pilot project in partnership with the REFORMA Mid-Atlantic Chapter and Prince George's Public Library System. The partnership is intended to engage with immigrant adults who seek to apply their skills within the United States workforce. It provides a self-paced course for potential librarians that will be developed with the concepts of globalization, self-actualization, and inclusion in mind. The H.E.A.R.T. Framework along with new ways of recruiting to the workforce - such as the pilot project - can advance LIS education. Indeed, a humanizing educational approach can help move LIS training from one-size-fits-all functionalism—that is, “Deweyan pragmatism” (Buschman, 2017)—to a real-world, emancipatory praxis.

THE H.E.A.R.T. FRAMEWORK

The H.E.A.R.T. Framework is designed for LIS educators and aims to broaden students' understandings of immigrant integration to foster relevant and progressive services. We describe concepts and then provide examples of ready-to-use tools.

Humanitarianism

Learning content must first promote compassion toward immigrants without prompting pity or notions of deficiency, as discussed further along. There is an opportunity to make explicit the implied professional aim of combating hegemony, xenophobia, and anti-immigrant rhetoric. Humanitarianism must undergird LIS endeavors.

Mind the Five, for example, is a card game for training service providers such as librarians to be ethically conscious and culturally sensitive when engaging with immigrant communities. Developed by University of Washington and University of Oregon information researchers, the game is structured to promote sound privacy practice but can also be used to champion equality and demonstrate allyship in a low-stakes, casual setting.

Experience

Courses or units that focus on immigrants in libraries present an opportunity to introduce issues that impact communities. In addition to challenges, LIS educators should shed light on the richness and sovereignty of immigrant communities. In doing so, future librarians will be exposed to strengths- or asset-based narratives.

[*Immigrant Stories*](#) is a platform that helps recent immigrants and refugees create digital stories - or brief videos with images, text, and audio - about their personal experience. These digital stories are preserved through the [IHRC Archives](#), the [Minnesota Digital Library](#), and the [Digital Public Library of America](#). Over 250 stories representing more than 50 different communities are now part of the [Immigrant Stories Collection](#) and the platform contains lesson plans for college educators. In addition, LIS educators can point students to the [IFLA World Library Map](#) to help them ascertain the library environments in countries of origin. Immigrants' pre-migration library access is rarely considered.

Acculturation

Acculturating to a new society is a long-term process that is directly linked to not only the availability of resources, but how they influence one's quality of life. There is often little

regard for affect or health outcomes in library service to immigrants. To strengthen students' awareness of how immigrant acculturation connects with physical and inner wellbeing, it is important to include learning content on the process of integration, acculturation, and social inclusion.

To demonstrate the consequences of acculturative stress and microaggressions, LIS educators can incorporate [Killing Me Softly](#), a game designed by librarian Fobazi Ettarh. Even though it involves all facets of diversity and multiculturalism, the game encourages awareness of adjusting to a new culture.

Realism

Efforts that ignore the everyday impact of U.S. social stratification are ultimately inauthentic. Librarians can play a role in fostering dialogue on factors that prompt mass migration such as climate and labor migration, mass expulsion, armed conflict, “brain drain” (the exodus of educated, highly skilled groups) and more. Rather than profiling immigrants as digitally divided, technological ignorant, and information poor (Shen, 2013; Prensky, 2001; Childers & Post, 1975), LIS education must interrogate whether and why disparities exist. Legal, physical and ideological boundaries influence a newcomer's integration into their community. Librarians can help disrupt the marginalization, demagoguery, and disenfranchisement that immigrants often experience.

[The Immigrant Experience](#) is an interactive tool designed by the team at Experience Magazine. It highlights that every American immigrant from every era has a story — shaped by laws, demographics, economics, and racial attitudes. And to discourage the use of dehumanizing language such as “Illegal Aliens” which has yet to be eradicated from the Library of Congress Classification System, LIS educators can introduce students to the [Glossary of Migration](#) made possible through the United Nations International Organization for Migration.

Transnationalism

Immigration flows are inextricably linked to information networks. While LIS predominantly focuses on the lack of information access or skills, research substantiates that now more than ever migrants participate in and contribute to the information society prior to, upon, and after relocating (Nedelcu, 2012). Kok and Rogers (2017) refer to this as *transglocalization*. In the 21st century, immigrants are “digital subjects” or “e-actors” (Fortunati & Vincent, 2013) who have proven to be effective information users.

Educators can introduce students to smartphone applications such as [Remitly](#) and [FindHello](#), which were designed with immigrant integration in mind. They can also highlight the journeys of information experts such as Ukrainian-born [Jan Koum](#) who co-created WhatsApp in part for transnational users. Through the use of information technologies, diasporic identities are framed, families remain bonded, memories are chronicled, and life tools are organized.

APPLICATION: PILOT PROJECT

The H.E.A.R.T. framework will be tested through a related initiative: The *Integrating Immigrants into the LIS Workforce* one-year pilot project to introduce refugees and immigrants to the library professions. As acknowledged by Melanie Welch, project director in American

Library Association's Public Programs Office, it wasn't until 2019 that the field began developing best practices and a conversation around library services to new Americans. There still remains a gap in creating pathways for immigrants to enter the library professions. Through this self-paced mini-course, participants will be provided an orientation followed by a shadow experience within a public library. The project is a partnership between the REFORMA Education committee, the REFORMA Mid-Atlantic chapter, and the Prince George Public Library system to address the larger research question: *How can we welcome highly skilled immigrants into the library workforce?*

The concepts of humanitarianism, experience, acculturation, realism, and transnationalism will inform the development of the mini-course. Accordingly, the learning content will emphasize individual agency, self-determination, information potential, cultural richness, and globalization. Modules will introduce highly-skilled immigrants to 1) the library professions, 2) aspects of working in different types of libraries or information organizations, 3) opportunities for immersion, and 4) details on funding library education. The project will take place in Prince George County, Maryland which is recognized as a multicultural region with a growing immigrant community, particularly among El Salvadoran, Nigerian, and Ethiopian groups. To assist with the immersion exercise, Prince George County Public Library will provide a one-day shadowing for pilot participants. The researchers will then gather data and feedback on the pilot program with the hopes of scaling up and formalizing the initiative.

CONCLUDING THOUGHTS

Immigrants are important library constituents. Whether K-12, public, or academic, libraries have historically served as educational and recreational spaces for those who re-establish their lives in the U.S. However, U.S. LIS education continues to be one-dimensional in its understanding of immigrants' information experiences. Relatedly, the library workforce offers narrow recommendations. We offer a social justice approach through the H.E.A.R.T. Framework. This technique can strengthen education for LIS professionals. The intended outcome is to transform outreach from cursory services to conscientiousness partnerships.

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Using Universal Instructional Design to Teach the Fundamentals of LIS

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ABSTRACT

As Library and Information Science (LIS) educational programs attract a large diversity of students in terms of demographics and disciplines, the Universal Instructional Design (UID) framework, with its emphasis on developing inclusive instructional methods to accommodate a multiplicity of learning styles, is advocated as a framework for teaching key LIS concepts, especially to new students.

ALISE RESEARCH TAXONOMY TOPICS

curriculum; information system design; online learning; pedagogy; students; user interfaces

AUTHOR KEYWORDS

universal instructional design; UID; universal design for learning; UDL; design principles

INTRODUCTION

In the 21st century, the Library and Information Science (LIS) field continues to expand ever wider, encompassing more and more sub-disciplines such as data science, information systems and management, knowledge management, just to name a few. One could argue that the field is expanding to reflect the myriad interests and expertise of a more diverse membership. Consequently, no longer can one assume that graduates from LIS programs will work in a GLAM (galleries, libraries, archives, museums) setting. Recognition of this reality is revealed in the changing names of programs and schools, the rise of the iSchool movement, and the more frequent abandoning of foundations courses from the curriculum. How then, especially in a student's first semester are educators to identify and define specific LIS fundamentals that are not only inclusive and relevant to the overall discipline but also speak to these diverse students with their equally diverse academic and career goals?

A possible means of achieving this important goal of inclusivity and relevance is to view curricula through the lens of a conceptual framework. In a prior paper, I argued for a Community of Practice (CoP) framework (Nesset, 2017) which advocates as an integral principle that learning is part of human nature and is “both life-sustaining and inevitable” (Wenger, 1998, p. 3). As a social theory of learning, the CoP framework integrates four main components of social participation: meaning, practice, community, and identity, with the latter closely linked to diversity. Indeed, Wenger proposes that diversity “makes engagement in practice possible and productive” (p. 75).

In this paper I present yet another potential framework – that of Universal Instructional Design (UID). Similar to a CoP setting which can “[open students’] horizons so they can put themselves on learning trajectories they can identify with” (p. 10), UID offers yet another means for achieving this goal.

This paper will provide a brief introduction to UID and provide examples of strategies within the framework to teach LIS fundamentals in ways that are meaningful to all students no matter their backgrounds. In this way, this paper connects to the conference theme, “Transforming LIS Education in an Interconnected World”.

DEFINING A DESIGN FRAMEWORK: UNIVERSAL INSTRUCTIONAL DESIGN

Universal Design (UD) is an established framework used within libraries to address the need to provide physical access for disabled patrons to library facilities and services, especially in the area of technology (Hammer, 2018; Spina, 2017). However, while UD is appropriate for this physical context, it does not adequately address the educational learning environment. Universal Instructional Design (UID), or Universal Design for Learning (UDL) as it is also termed has its origins in K-12 education and the recognition that students with disabilities may require different modes of learning (Pliner & Johnson, 2004). Indeed, there is some evidence of UDL being used to inform aids for library instruction (Pionke, 2017, 2018). More recently, however, UDL/UID has broadened its scope and is grounded in the notion that providing multiple lenses through which to view a concept can be of benefit to all students (Black, Krahmer & Allen, 2018; Pliner & Johnson, 2004; Rao, Edelen-Smith & Wailehua, 2015). Thus, the term “universal” does not imply a one-size-fits-all approach but rather “an awareness of the unique nature of each learner and the need to accommodate differences, creating learning experiences that suit the learner and maximize his or her ability to progress” (Center for Applied Special Technology (CAST), as cited in Pliner & Johnson, 2004, p. 107). Building on this concept, Grier-Reed and Williams-Wengerd (2018) present three main assumptions of learning: “all students are capable of learning, students’ active participation is essential for learning, and learning is an ongoing process rather than an end state” (p. 3). From a design perspective, Rush and Schmitz (2009) present for an online context seven main principles of UID along with potential strategies for achieving them (Table 1).

Fundamental UID Principles	Strategy
1. <i>Equitable Use</i> : The design is useful to people with diverse abilities (i.e., all students are unique).	Inclusive pedagogy explicitly taking into account age, race, gender, ethnic, and cultural diversities
2. <i>Flexible Use</i> : The design accommodates a wide range of individual preferences and abilities.	The design provides choice, and is adaptable to users with different abilities and learning paces.
3. <i>Simple & Intuitive</i> : The design is easy to understand by all users, regardless of prior experience, knowledge, or language skills.	The design is simple and consistent with user expectations. It addresses a wide range of intellectual abilities and language skills, providing prompt feedback after a user completes a task.
4. <i>Perceptible</i> : The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.	Different presentation methods such as pictorial and oral as well as tactile should be incorporated into the design. A range of techniques should be used when users encounter the design in order to recognize their different levels of ability.
5. <i>Tolerance for Error</i> : The design minimizes hazards and adverse consequences when a user performs accidental or unintended actions.	The design should provide warnings regarding hazards and adverse consequences and should be structured to minimize any unintended actions.
6. <i>Low Physical Effort</i> : The design is such that it can be efficiently and comfortably used with a minimum of fatigue.	The design should minimize physical effort, with reasonable operations so that users can maintain a neutral body position.
7. <i>Size and Space for Approach and Use</i>	The design allows for appropriate size and space for users so that they, regardless of body size, posture, or mobility, may approach, reach, manipulate and otherwise use it.

Table 1. UID Principles & Strategies. (Adapted from Rush & Schmitz, 2009, pp. 187-188)

While there is agreement that the main goal of UID is to allow students, no matter their differences, to understand and make sense of concepts according to their own reality, the two sets of principles presented each lack certain key elements. The learner-centered approach of Grier-Reed and Williams-Wengerd (2018) lacks detail in design. Similarly, the design-centered approach of Rush and Schmitz (2009) does not provide adequate information about the users/learners. Thus, to achieve true universal instructional design, the combination of the two approaches is necessary. It is through the application of these principles that students can be encouraged to go deeper and internalize what they are learning in a process of sense-making as outlined by Dervin (1998). The sense-making methodology advocates for the searching and using of information by the user/learner to bridge a “gappy reality”. As each person’s reality is different, the application of UID principles within a system, be it website or other learning platform, can facilitate the building of such bridges.

It is this broadest interpretation of UID that I advocate as a framework for LIS education to better address the disciplinary and demographic diversity of its students.

APPLYING THE UNIVERSAL INSTRUCTIONAL DESIGN FRAMEWORK: INTRODUCING STUDENTS TO LIS FUNDAMENTALS

Any instructor who has taught an introductory foundational or other core course (usually required as part of the curriculum) to students new to the LIS field and likely, new to graduate school, has experienced this broad student diversity first-hand. Often comprising a multiplicity of demographics and disciplines from the softest humanities to the hardest sciences, the one thing the students have in common is their aspiration to become information professionals. Yet even this goal can be incredibly diverse – depending on their preferences, the graduates of LIS programs will become professionals in a variety of information environments. How then does an instructor bring these new students together to harmonize their different abilities and interests rather than forcing them to conform to a certain construct? This is where UID can play a role. Below, I provide UID strategies for teaching three fundamental LIS concepts: information structure, representation, and relevance.

Information Structure: As discussed in Bates’ (1999) groundbreaking article, *The Invisible Substrate of Information Science*, the content of Information Science (IS) focuses on the structure of information; that the world of information is essentially the fourth universe and the intellectual domain of IS includes the production, seeking, retrieval, and use of information. Indeed, Bates (1999) stresses that, “The average person, whether Ph.D. scholar or high school graduate, never notices the structure that organizes their information, because they are so caught up in absorbing and relating to the content” (p. 1045). To help students understand this essential concept, I use the UID technique of modeling. On the first day of class, before the students have read the article, I take a straw poll. I ask the students to think back to their undergraduate studies and remember a particularly difficult assignment for which they had to do research, whether term paper or mathematical problem. Even if the course is online and students are listening to a recorded lecture I ask them to raise their hand if they ever thought about how the information that they searched

for, retrieved, and used got there? Most, if not all, do not raise their hands (of course, I cannot say for sure what happens with an asynchronous online class, but I can assume the response is similar). I then explain that this is the way it should be – that if the needed information was represented and organized in ways in which the users can each seamlessly engage in the research process, one of the most multi-faceted and important goals of the information profession, that is, the satisfaction of users’ needs, has been met.

Representation: Representation is a fundamental concept in the LIS field because it requires conceptualizing ideas and transforming them into surrogates that can then be organized and made available for retrieval by users. Certainly, anything that is under study or observation can be considered a document (Buckland, 1997), but it is the representation of that document into a tangible entity, this “information as thing” that allows for retrieval (Buckland, 1991).

This understanding of representation may be straightforward, but it does not tell the whole story. I want my students to go deeper so that they understand that although objective representation is the goal, there is always a measure of subjectivity involved; that a human-generated surrogate and even those that are computer-generated are going to reflect in some way the worldview of their creators (I remind them that it is humans who program computers). To do this, I use the UID technique of visual imagery. I provide the students with different images and ask them to provide each with a caption, describe how the image makes them feel, and supply keywords. Invariably, the keywords that they generate are subjective, reflecting how the image made them feel rather than a description. For example, a picture of a blue sky with clouds in the shape of a heart is often ascribed the keywords, ‘love’ and ‘hope’. Once they have completed this first part of the exercise, they are then asked if they think that by searching Google using the keywords they created others would be able to find the same image. Having the students think about their choice of keywords to represent an image so that it can be retrieved by others helps them to understand not only the complications associated with objective representation and retrieval, but the importance of striving to achieve it.

Relevance: Relevance is another foundational concept that I want my students to internalize and to think about more critically. Often, when discussing relevance in a LIS context, it is described in terms of ranking; in microcosm, how results are ranked in a database, and macrocosm, how they are ranked by a search engine on the Web. To explain how relevance can be subjective and is influenced by personal comprehension and interpretation, I use analogy. While giving a lecture on the subject, I indicate that I am conveying information in a way that students can understand, by speaking in English. I point out, however, that if I communicated the same information in a foreign language that no one in the class could read, write, or speak, they would not be able to understand or make sense of the information being conveyed, making the information useless to them. This helps them to realize that in order to determine relevance, one must be able to comprehend the information first. To further drive home the concept of subjectivity and interpretation, I discuss the fact that as I lecture many students take notes, and that even though each is hearing the same information, I could guarantee that no two students’ notes are the same because they each interpret the relevance of the information they are receiving based on their own worldview.

CONCLUSION

Library and Information Science educational programs attract a large diversity of students in terms of disciplines and demographics. Furthermore, many of these students are seeking careers outside the more traditional GLAM environments. Universal Instructional Design, with its emphasis on creating instructional tools to accommodate a multiplicity of learning styles, has been shown to be a robust framework to teach fundamental LIS concepts such as information structure, representation, and relevance to these diverse students. UID methods help learners to more easily internalize and make sense of difficult and/or complex concepts, thus encouraging them to think more critically so as to develop more meaningful connections that will prepare them for careers within a diverse yet interconnected world.

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Digital Humanities Among LIS Programs: An Analysis of Courses

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ABSTRACT

The digital humanities (DH) remain a growing area of interest among researchers and locus of new positions within libraries, archives, museums, and cultural heritage organizations. In response to this demand, many library and information science (LIS) programs have developed curricula around DH. While previous studies have surveyed DH programs, courses, and instructors generally, none has systematically examined DH courses within the context of LIS. This paper analyzes courses offered within ALA-accredited programs and iSchools, presenting descriptive findings, exploring unique aspects of DH education within LIS, and contextualizing courses offered in the United States and Canada with other courses worldwide.

ALISE RESEARCH TAXONOMY TOPICS

digital humanities; education; curriculum; education programs/schools; pedagogy

AUTHOR KEYWORDS

digital humanities; education; curriculum; education programs/schools; pedagogy

BACKGROUND

Training in the digital humanities (DH) takes place in different contexts, from university courses and programs to more informal settings such as workshops, (un)conferences, institutes, and more. Formal educational offerings provide unique opportunities for studying a field, particularly because they carry accreditation standards, organize labor and capital, and present public-facing views of the field to prospective students, employers, funders, and others.

Previous studies have examined DH programs and courses (Terras 2006; Spiro 2011; Sula, Hackney, and Cunningham 2017), as well as their development in different educational settings, often noting the histories and peculiarities of each institution—a “localization” that

Knight (2011) regards as necessary in DH. While other studies have addressed how librarians learn DH (Senchyne 2016) and teach DH (Rasmussen, Croxall, and Otis 2017), none has systematically examined DH courses within library and information science (LIS) programs, which are responsible for training information professionals for work across libraries, archives, museums, and cultural heritage organizations. These institutions, particularly libraries (Rockenbach 2013), have been discussed as key sites of DH work and partners for collaboration.

A study of these DH courses helps to show how LIS has transformed familiar concepts of information creation, collection, organization, management, and dissemination to digital landscapes and adapt them for use among digital humanists as a community. It also addresses the skills and competencies that LIS programs provide students and employers, and the unique capacity of LIS to contribute to DH more generally. Though each local institution may emphasize different aspects of this broad field, an analysis of common elements among existing courses helps provide some guidance to others who wish to add course offerings at their own institutions and affords LIS as a whole the opportunity to assess its current approach to DH and make timely interventions where necessary.

METHODS

The research presented in this paper is part of the ongoing work of the iSchools Digital Humanities Curriculum Committee (iDHCC), convened in 2019 in parallel to a Data Science Curriculum Committee, to report on opportunities and possible models for DH curricula in iSchools. The iDHCC is currently reviewing DH programs, courses, job listings, and other sources—all of which have informed and contextualized the analysis of courses presented here.

This study draws on Spiro's (2011) methodology, which examines course assignments, readings, media types, key concepts, and technologies in an attempt to characterize the "hidden curriculum" found throughout DH courses. Spiro's study analyzed 134 English-language syllabi from DH courses offered between 2006–2011 across a range of departments.

Here, we focus on a smaller set of courses offered recently at American Library Association (ALA)-accredited programs and within iSchools. The ALA currently lists 62 programs in the United States and Canada that have undergone external review and meet the ALA Committee on Accreditation's Standards for Accreditation of Master's Programs in Library and Information Studies. The iSchools organization, founded in 2005, includes 109 schools, colleges, and departments worldwide that share a fundamental interest in the relationships between information, people, and technology. Though there are overlaps between these two groups—about 80% of iSchools in the US have ALA-accredited programs (see Figure 1)—there are also important differences, given their histories, conceptual scope, and geographic locations.

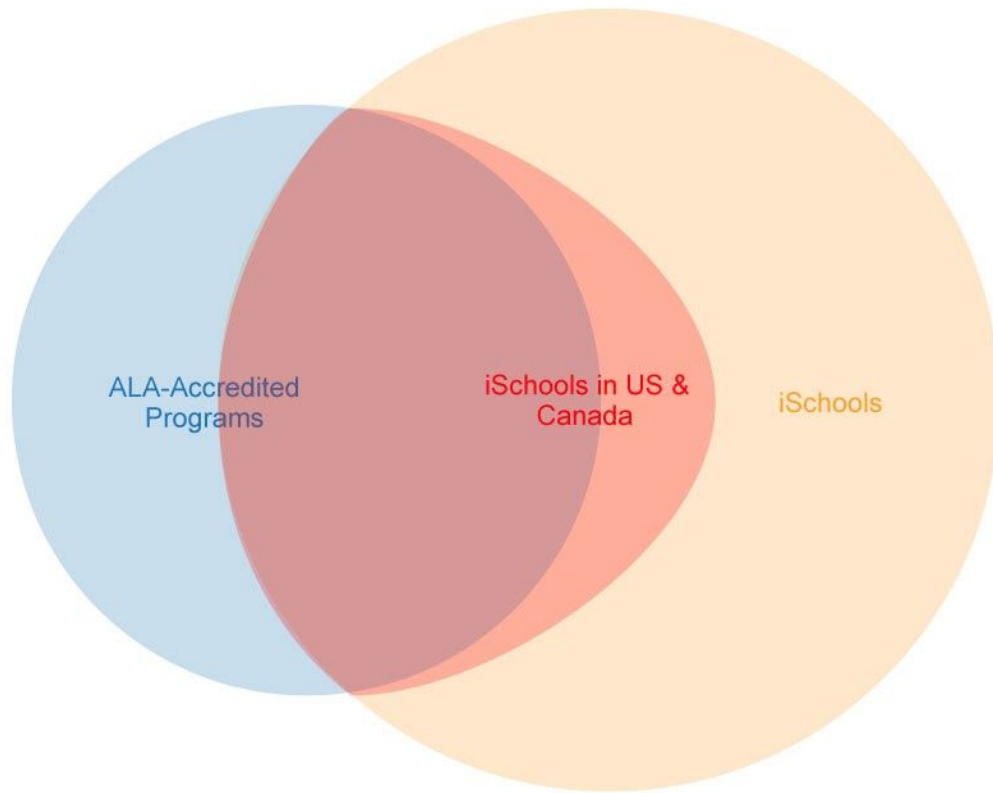


Figure 1. Comparison of programs and schools included in this study.

In addition to analyzing commonalities shared between these two groups, we also examine differences and their implications for practice within various institutions in the field. For example, library-specific programs may focus more heavily on research activities and facilitating work with faculty, while broader, information-based approaches may coincide with efforts around linked open data, publishing platforms, gaming, or maker culture. A thorough examination of courses in these two settings allows us to examine these nuances as part of the overall variety of DH work.

Finally, we situate our findings within broader discussions of DH, with particular reference to global and local constructions of the field. While the data on ALA schools is limited to the United States and Canada, we contextualize our findings within the work of iDHCC, which is international in scope, noting contrasts and continuities between DH courses worldwide.

PRELIMINARY RESULTS

Data for this paper was collected by consulting the Directory of ALA-Accredited and Candidate Programs in Library and Information Studies (<http://www.ala.org/educationcareers/accreditedprograms/directory>) and iSchool Directory (<https://ischools.org/Directory>) and manually inspecting all programs for DH courses. We only included courses that are explicitly about DH, rather than a broad array of courses which could

be related to the field (e.g., digital libraries, data management, academic librarianship, and scholarly communications). Explicit mention of DH in a course title or description is important in several respects: It signals an intent to link the course directly to the field and to prepare students for work in relevant positions. It also necessarily brings meta-level or reflective considerations about the field, which some have noted as critical in defining DH (Liu 2013). Similarly, we did not include traditional subject librarian courses (e.g., humanities services and sources, art librarianship), which might include mention of DH as an emerging trend of the field. Future work may consider how such courses, though not about DH *per se*, can incorporate aspects of the field to build awareness, interest, and capacity among students.

Where possible, the most recent syllabus for each course was obtained through web search or direct request to the instructor (this effort is ongoing). Following Spiro, these syllabi will be examined for course assignments, readings, media types, key concepts, and technologies, which will be categorized and analyzed for frequency. In addition, we will consider questions of accessibility (as related to the format of the class, media, and assignments) as well as syllabus policies, such as open educational resources and diversity, equity, and inclusion.

To date, we have inspected all ALA-accredited programs and iSchools and identified a total of 60 courses across 35 institutions worldwide. The distribution of these courses among ALA-accredited programs and iSchools is notable. Around one-third of all ALA-accredited programs offer DH courses, while just over one-fifth of iSchools offer them—around one-third if we consider only iSchools in the United States and Canada. These figures rise to just over 40% for ALA-accredited programs located within iSchools (see Table 1 for details). Put differently, all iSchools in the United States and Canada that offer DH courses do so within ALA-accredited programs, and those programs account for more than half of all iSchools with DH courses, despite being only one-third of iSchools by count. For a visual comparison of these distributions, see Figure 2. These findings again point to deep engagements between libraries and DH, which we plan to examine further in analyzing course readings, assignments, and key concepts.

	Total listed N	Offering DH courses N (%)
ALA-accredited programs	62	20 (32.3%)
ALA-accredited programs within iSchools	36	15 (41.7%)
iSchools within the US & Canada	48	15 (31.3%)
All iSchools	109	26 (23.9%)

Table 1. Summary of programs, schools, and courses included in this study.

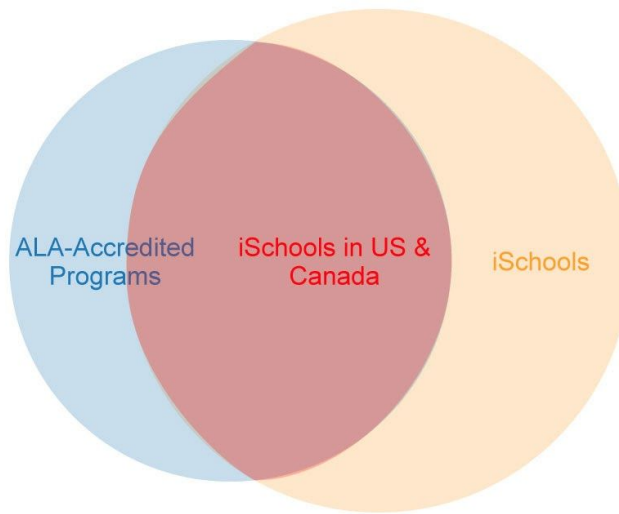


Figure 2. Comparison of programs and schools with digital humanities courses.

At present, we have located just over one-fifth of course syllabi online, either through department/school websites or through faculty websites. This availability seems resonant with the values of “openness” and “collegiality and connectedness” that are said to mark the field (Spiro 2012). We are currently requesting the remainder directly from instructors and/or departments. Once obtained, we will analyze all syllabi as described above in Methods, dividing our interpretations between ALA-accredited programs, iSchools, and iSchools in the United States and Canada, along the lines discussed above. The presence of DH courses in ALA-accredited programs outside of iSchools will further establish the distinctive character of DH within the context of librarianship, while the presence of courses in iSchools outside of North America—currently China, Germany, Israel, the Netherlands, Sweden, Taiwan, and the United Kingdom—will help to situate our findings with a more global context of DH. As Risam (2017) and others have noted, discussions of DH often center on North American or at best Anglo-American approaches, when in fact all DH practices are local and we should embrace “the dialectical relationship between global and local that manifests in our work to understand the hallmarks of the local—our accents—present in DH scholarship.”

We plan to complete this analysis of syllabi in time for the ALISE 2020 Conference—ideally in time for the conference proceedings—and share findings that we hope will raise awareness of unique aspects of DH education within LIS and invite discussions about education and training in the field and pedagogical approaches.

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Library as Research Lab: New Research Engagement Model for LIS Students and Professionals

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ABSTRACT

We present a research engagement model called “Library as Research Lab,” designed to foster research on library practices while enabling LIS students to hone research skills and librarians to adopt evidence-based practices. By creating three research labs through collaboration between one iSchool and a university library on campus, the program provides unique learning opportunities for master’s students, academic librarians, and faculty to engage in research activities over a full academic year. This paper introduces program activities for the Library as Research Lab project. The results of program evaluation based on data collected from participating students and librarians are also reported.

ALISE RESEARCH TAXONOMY TOPICS

education programs/schools; students; research methods; continuing education

AUTHOR KEYWORDS

research competency; research engagement model; program evaluation study

INTRODUCTION

There have been extensive efforts toward and discussions about identifying a new set of competencies and capabilities for Library and Information Science (LIS) graduates (e.g., Abels, Howarth, & Smith, 2016; Bertot, Sarin, & Percell, 2015). One of the core competencies that has become increasingly vital for library practitioners is research competency. However, previous studies found a number of obstacles that prevent librarians from conducting research. Koufogiannakis and Crumley (2006) identified primary obstacles such as a lack of funding,

experience, time and support, and access to existing literature. It is noted that the authors discussed librarians' lack of knowledge about how to conduct research and lack of practice applying that knowledge. They called for research to be "integrated throughout the graduate curriculum" (Koufogiannakis & Crumley, p. 335) and for LIS programs to "foster a culture where research is not only accepted but embraced" (Koufogiannakis & Crumley, p. 335). A survey of university librarians at Canadian universities reported that they had the least confidence in their librarians' level of research skills (Berg, Jacobs, & Cornwall, 2013).

We believe that research competency is important for LIS students and practitioners because it prepares them to be evidence-based practitioners. Academic librarians are increasingly expected to use evidence to demonstrate libraries' impact and value (Oakleaf, 2013), justifying their status as community anchors and contributing to the overall teaching, research, and service missions of their universities. As a result, recent LIS graduates and current librarians alike need to develop the research skills (Connaway & Radford, 2016) necessary to demonstrate systematic evidence for data collection, analysis, and interpretation, and to use that evidence in order to build an argument when proposing new programs and services.

The Institute for Research Design in Librarianship (IRDL) was designed to train academic and research librarians to develop research skills and conduct their own research projects. The IRDL also provided opportunities for librarians to construct a network of possible collaborators for future research projects (library.lmu.edu/irdl). Based on the results of a survey with IRDL participants, Kennedy and Brancolini (2018) found that self-efficacy is one of the most important predictors of research success. They also found that formal and informal mentorship is associated with research success.

In this paper, we present a research engagement model called *Library as Research Lab* that is designed to foster research on library practice while enabling LIS students to hone research skills and librarians to adopt evidence-based practices. With funding from the Institute of Museum and Library Services, we created three research labs through collaboration between the University of Michigan School of Information and the University of Michigan Library. The project was pilot-tested in January–April 2018 with six student fellows, and then fully implemented in academic year of 2018–2019 with a cohort of 12 student fellows. The Library as Research Lab program has provided unique learning and working opportunities for master's students, academic librarians, and faculty to engage in research activities over a full academic year. This program has three distinct features that have not been attempted in other librarian research training programs such as IRDL: (1) it establishes research labs in an academic library; (2) For LIS students, it offers an experiential research-based learning opportunity that complements and enriches their classroom-based learning experiences; (3) for academic librarians, it provides a professional development program in which they can improve research and mentoring skills while interacting with LIS students, peer librarians, and faculty members.

PROGRAM EVALUATION OF LIBRARY AS RESEARCH LAB

For the Library as Research Lab project, we created three research labs in the University of Michigan Library. Each lab consisted of seven members: a director, who was either a faculty member in the School of Information or a library administrator in the University of Michigan

Library; one mid-career librarian; one early-career librarian; and four master's students in the School of Information. Students were mentored by faculty, librarians, and peers while librarians were mentored by the faculty and peer librarians. In our multidirectional mentoring with sustained interactions through a lab-based experience, it was expected that librarians would engage in their own professional development and continuing education by working collaboratively on research projects. This way, students would have rich mentoring and collegial interactions with faculty, librarians, and peers.

Each lab developed its own research topics that were aligned with the themes of the three research labs: library assessment in student learning, library assessment for research and scholarship, and design thinking for library services. The members of each lab conducted research projects, engaging in the full life cycle from developing a research problem, designing research methods, collecting empirical data, analyzing data, writing up the results, and submitting to various professional conferences and journals. The participants attended weekly or bi-weekly research lab meetings and monthly all-hands meetings throughout the academic year in which they shared their experiences with research and mentoring. The program ended with a research symposium, where every student presented their research project as a poster. Students received monthly stipends with funding from the Institute of Museum and Library Services.

To investigate the effectiveness of the Library as Research Lab model, we collected process-based and outcome-based evaluation data from ten students and seven librarians (Of 12 students, 10 were invited to participated in the evaluation study because two continued to participate in the project for the following academic year). For process-based evaluation, we asked questions about satisfaction with research activities as well as barriers participants experienced. For outcome-based evaluation, we focused on gathering self-assessment data from librarians and students about their perceived improvement in research skills and learning experiences. Additionally, we investigated perceptions of students' self-confidence and librarians' mentoring skills. The data were collected using pre-program questionnaires (September 2018), post-program questionnaires (April 2019), mid-year group interviews with students (January 2019), individual exit interviews with students (April 2019), and focus group interviews with librarians (May 2019).

As shown in Table 1, the results from the pre- and post-program questionnaires showed that student participants reported improvement across all but two of 15 questions. Students' responses revealed that as a result of participating in this program, they self-assessed improvements in their ability to select appropriate research methods for collecting empirical data, their knowledge of research methods, and their ability to interpret the practical implications of research findings. In particular, students reported that their understanding of how to analyze research data from multiple sources was most improved, and mean scores from pre- and post-program questionnaire responses were significantly different (pre-program questionnaire: 4.54 and post-program questionnaire: 5.8, using a scale of 1=strongly disagree, 2=disagree, 3=somewhat disagree, 4=neither agree nor disagree, 5=somewhat agree, 6=agree, and strongly agree=7). Students' average agreement scores regarding their ability to break down complex problems for investigation and research were also significantly different (pre-program questionnaire: 4.9 and post-program questionnaire: 5.8). Two questions for which average scores

were slightly lower on the post-program questionnaire than the pre-program questionnaire were about students' level of confidence in working towards shared goals/outcomes (down from 5.90 to 5.80) and level of confidence in their ability to complete projects by established deadlines (down from 6.45 to 6.40). As presented in Table 2, the librarians who participated in the program also responded that their research skills were improved, although there were no statistically significant differences between the average scores on their pre- and post-program questionnaire responses.

Assessment Categories	Questions	Pre-Program Questionnaire M(SD)	Post-Program Questionnaire M(SD)	p
Self Confidence	Q1 I have a high level of confidence in managing projects that include challenging and complex tasks.	5.18(0.70)	5.70(0.48)	0.19
	Q2 I have a high level of confidence in working towards shared goals/outcomes.	5.90(0.67)	5.80(0.42)	0.34
	Q3 I have a high level of confidence in my ability to complete projects by established deadline	6.45(0.37)	6.40(0.97)	0.72
	Q4 I have a high level of confidence in my career direction.	4.27(1.20)	5.10(1.97)	0.29
	Q5 I have a high level of confidence in the preparation I have received at UMSI to become a professional librarian.	4.36(0.39)	4.50(0.40)	0.68
	Q6 I have a high level of confidence in my ability to navigate change or conflict when working as part of a team.	5.36(1.06)	5.90(0.87)	0.08
Research Skills	Q7 I understand how to select appropriate research methods for the collection of empirical data.	4.54(1.49)	5.60(0.97)	0.09
	Q8 I have well-rounded knowledge of a variety of research methods.	4.36(1.84)	5.6(1.17)	0.10
	Q9 I have the ability to interpret research findings into practical implications.	5.27(1.16)	5.7(0.67)	0.37
	Q10 I understand how to analyze research data from multiple sources.	4.54(1.34)	5.8(0.63)	0.03*
Critical Thinking Skills	Q11 I understand how to effectively communicate the results of my research to others.	5.72(1.05)	5.8(0.42)	0.78
	Q12 I have the ability to examine and distinguish claims from a variety of sources.	5.54(1.07)	5.8(0.63)	0.31
	Q13 I have the ability to evaluate evidence and assess relevance to a specific research question or problem.	5.45(0.84)	6.0(0.82)	0.08
	Q14 I have the ability to break down complex problems for investigation and research.	4.9(1.40)	5.8(1.23)	0.02*
	Q15 I have the ability to synthesize research findings.	5.45(1.43)	5.7(0.82)	0.39

n=10. Scale: Strongly Disagree(1), Disagree(2), Somewhat Disagree(3), Neither Agree nor Disagree(4), Somewhat Agree (5), Agree (6), Strongly Agree (7)

**p<0.05*

Table 1. Student Pre-Program and Post-Program Evaluation

Assessment Categories	Questions	Pre-Program Questionnaire M(SD)	Post-Program Questionnaire M(SD)	p
Mentoring Skills	Q1 I feel prepared to provide effective mentoring to potential mentees.	5.37(1.60)	5.87(0.99)	0.54
	Q2 I feel that being a mentor is a key part of my professional growth.	6.62(0.74)	6.62(0.52)	1.00
	Q3 I have a high level of self-confidence in being in a mentorship role.	5.62(1.77)	6.25(0.46)	0.4
	Q4 I have a high level of engagement in professional organizations, conferences, and/or committees.	6.0(0.92)	5.75(0.89)	0.65
	Q5 I have benefited from mentoring in my own professional career.	6.62(0.74)	6.5(1.07)	0.81
Self-Confidence	Q6 I feel confident sharing my expertise with others in my professional community.	6.12(1.35)	6.25(0.71)	0.83
	Q7 I have a high level of confidence in my ability to navigate change or conflict when working as part of a team.	6.0(0.53)	6.12(0.83)	0.68
Research Skills	Q8 I understand how to select appropriate research methods for the collection of empirical data.	5.75(0.71)	5.75(0.71)	1.00
	Q9 I have well-rounded knowledge of a variety of research methods.	4.87(0.83)	5.5(0.92)	0.18
	Q10 I have the ability to interpret research findings into practical implications.	5.5(1.19)	5.87(0.83)	0.55
	Q11 I understand how to analyze research data from multiple sources.	5.37(1.06)	5.62(0.74)	0.62
Professional Identity	Q12 I understand how to effectively communicate the results of my research to others.	5.62(1.19)	5.87(0.35)	0.60
	Q13 I have a strong sense of my career path over the next 10 years.	5.0(0.53)	5.25(0.89)	0.35
	Q14 I feel aware of what professional development opportunities are available to me.	6.0(0.76)	6.25(0.71)	0.60
	Q15 My professional role has a great deal of personal meaning for me.	6.37(0.52)	6.62(0.52)	0.35
	Q16 I have a strong sense of belonging to my professional community.	5.87(0.99)	6.25(0.89)	0.48
	Q17 I consider the development of skills in collaboration important to advance my career goals.	6.75(0.16)	6.75(0.16)	1.00

n=8. Scale: Strongly Disagree(1), Disagree(2), Somewhat Disagree(3), Neither Agree nor Disagree(4), Somewhat Agree (5), Agree (6), Strongly Agree (7)

**p<0.05*

Table 2. Librarian Pre-Program and Post-Program Evaluation

The mid-year interviews and exit interviews with students were analyzed with respect to the following themes: learning experience, group work experience, mentee experience, research competency, professional skills, confidence in career preparation, connection to course work, learning goals, comparison between initial expectations and actual experience, barriers and challenges, professional outcomes, and future program suggestions. Overall, students reported unique learning experiences from the program in terms of ownership of the research process, confidence in career preparation, and group mentoring. They stated that going through each step of the research process was helpful in learning how “all of the pieces of the research process fit together in the big picture.” They also felt this program helped them prepare for their professional careers with regard to research competence, communication skills, and working in

group settings. Students reported that learning from peers through giving and receiving peer mentoring was particularly positive. In the focus group interviews, librarians shared their experience in working with students who had more independence and were willing to take more initiative on research projects than the librarians initially expected. They were consistently positive about their mentoring experience as they were able to mentor students over the course of a full academic year, allowing librarians to give students advice that “fit for a lot of different scenarios.” Librarians found having another peer librarian mentor in the same lab was unique and particularly helpful.

CONCLUSION

Although most LIS programs offer research methods courses in their curriculums, taking coursework may not be sufficient to enable LIS students and professional librarians to master evidence-based practices. The Library as Research Lab program was successfully implemented as a new research engagement model that provided new learning environments for LIS students who were able to develop the research skills necessary to lead research projects and apply evidence-based approaches to practice. By learning and practicing mentoring in research lab settings, librarians also gained opportunities to enhance their mentoring capabilities.

Based on the results from this evaluation study, the project team made a few minor changes for the next cohort of student fellows who participated in the program from Fall 2019 to Spring 2020. For example, we made further efforts to build a stronger sense of community across the three research labs by sharing experiences of engaging in research more explicitly rather than simply reporting out what each lab had done in monthly all-hands meetings. One important piece of feedback we received from both students and librarians was that they expected the mentoring to be better planned and more systematic. Therefore, the team is currently working on developing the *Library as Research Lab Mentoring Guide* to offer lessons learned for mentoring relationships as well as activities informing mentorship practices.

The preliminary results of the Library as Research Lab program evaluation demonstrate that this new research engagement model enables student-librarian-faculty teams to learn, practice, and engage in research projects in academic library settings. We claim that this model can be applied in other LIS program-academic library pairs. While the three research labs implemented at the University of Michigan focused on library assessment in student learning, library assessment for scholarship and research, and design thinking for library services, specific themes of future research labs on other campuses can be tailored to local interests and needs.

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Indigenous Digital Inclusion: Interconnections and Comparisons

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ABSTRACT

This paper explores published research on Indigenous digital inclusion, starting from the premise that Indigenous peoples adopt and use digital technologies in ways that fit their specific social contexts. Analysis of search results from Scopus and Web of Science aimed to identify common themes and approaches, and to explore differences and interconnections between research from disparate academic disciplines. The findings indicate that research from Australasia features prominently and that the Social and Computer Sciences produce the bulk of the work in this area. Conclusions comment on the importance of a strengths-based, as opposed to a deficit, approach to research and instruction in Indigenous digital inclusion.

ALISE RESEARCH TAXONOMY TOPICS

critical librarianship; information rights; information system design; specific populations; social computing

AUTHOR KEYWORDS

digital inclusion; Indigenous inclusion; literature review; Indigenous peoples

BACKGROUND AND CONTEXT

As the world comes to terms with the scale and impact of the COVID-19 pandemic, it is more evident than ever that contemporary society depends on reliable access to information and communication technology (ICT) infrastructure to participate fully in a digitally connected world (Townsend, Sathiaselan, Fairhurst, & Wallace, 2013; Pavez, Correa, & Contreras, 2017). Internet access and the ability to fully use digital technologies is still far from universal, however, and many people remain excluded from online participation. Digital exclusion has emerged as a driving force of inequality and is directly linked to other areas of deprivation (Atkinson, Salmond, & Crampton, 2013; Park, Choi, & Hong, 2015). Access to the internet is “...considered to be a fundamental aspect of our structures of opportunity, both socially and in the market; our structures of communication; and our structures for enabling choices” (Atkinson, Salmond, & Crampton, 2013, p. 21). Access to and the ability to use digital platforms

and technologies has clear economic and social benefits for those individuals who can connect and have the skills to leverage that access through internet-enabled opportunities for active citizenship, social inclusion and employment (Bartikowski, Laroche, Jamal, & Yan, 2018; Clayton & Macdonald, 2013; Hartnett, 2016; Townsend et al., 2013). In other words, digital access provides a level of richness and reach similar to that ascribed to the call for literacy and general access to education in the 19th and 20th centuries (Lloyd, 2007).

The impact of a widespread emergency, like the COVID-19 crisis, means that digital skills are increasingly important as a large part of global society is shocked into moving online (Townsend et al., 2013). Alongside the steady adoption of digital services over the last decade or more, defining moments such as COVID-19 created a situation where people are left with little choice but to engage online with commercial goods and services via platforms such as eCommerce, public services and eGovernment as well as, interacting socially with friends and family online. The pandemic has, for many, forced an involuntary shift to working and learning from home whether or not they have the skills for teleworking or eLearning (Ebbers, Jansen, & Van Deursen, 2016). People do not spontaneously acquire the necessary skills to participate meaningfully in a complex digital world (Ball, Francis, Huang, Kadylak, Cotton & Rikard, 2019; Friemel, 2016; Hilbert, 2011; Van Deursen, & Van Dijk, 2014; Schradie, 2011; Starkey, Sylvester, & Johnstone, 2017). Moreover, intertwined social factors are in-play as the world has had to adjust rapidly to a new reality of online, technologically-mediated work, life and education. As well as having to adjust to working from home themselves during the pandemic lock-downs, parents have also needed to manage their children's education and this is more difficult for some than others. People in digitally marginalised settings, for example, frequently have overlapping and complex needs such as over-crowded housing arrangements, poverty, or health and wellbeing barriers (Buré, 2006).

It is imperative to explore the nuances of digital exclusion so that we have a more informed understanding of how people may derive benefits from the use of technology to participate in society on terms that makes sense to them (Ball, et al., 2017; Starkey, Sylvester, & Johnstone, 2017; The global information technology report, 2012). However, it is easy to adopt the position that those who have and use digital technologies will automatically be better off than those who do not, and that those without are somehow beyond hope (or help). It is tempting for scholars to adopt a deficit position; however we posit that in doing so there is a risk of masking the social context where technology does not fix-that-which-is-broken, but instead, enables those who are doing their own thing with technology to do it on their own terms, in the ways that they want to, rather than imposing a normative, dare we say, colonial perspective on use and/or non-use of technology. This is particularly relevant for members of Indigenous communities who routinely have a different perspective on and attitude towards hegemonic cultural and societal norms and approaches. In other words, digital technologies can be an enabler of post-colonial expression and establishment of identity rather than a tool for social homogeneity.

A focus on cultural and social aspects to explain why people are reluctant to participate digitally can include consideration of people's place of access, the quality of the experience, digital skills and expectations of use (Pavez, Correa, & Contreras, 2017). When studying digital inclusion, it is essential to look beyond access-opportunities, education, and income to the social and cultural interpretation and use of digital artefacts among and within different groups to properly understand why, in some cases, use of technology can be regarded with suspicion or

indifference rather than opportunity (Pavez, Correa, & Contreras, 2017). This is clearly evident within Indigenous communities who are often nursing the persistent injury of colonialism. Interventions that address Indigenous digital inclusion have to happen within a frame of negotiated terms of use and with careful respect to context, Indigenous ways of knowing and the safeguarding of Indigenous knowledge.

In this context, an exploration of the research on Indigenous digital inclusion can assist those working in the area to identify culturally safe approaches to investigating the issues around Indigenous peoples' engagement with digital technologies. Collaboration across academic disciplines and/or with community stakeholders is increasingly considered vital to ensure that the knowledge and expertise of a range of specialists are brought to bear on important societal problems. Analysis of the interconnected and socially situated characteristics of the research enables a mapping of different approaches to the same topic across disciplines, bringing together different theoretical perspectives to shed light on it, and highlighting the use of different research approaches to answer similar research questions. The aim of the research reported in this paper is to provide an overview of the research on Indigenous digital inclusion by identifying which academic disciplines are active in this field and by analysing differences and similarities in their focus and approach to the topic. The research questions guiding the analysis are:

1. Which subject disciplines are undertaking research into Indigenous digital inclusion?
2. What evidence is there of interconnections in themes, approaches and perspectives between scholars from different academic perspectives researching Indigenous digital inclusion?

METHODOLOGY

We chose to search Scopus and Web of Science for this project because of the broad scope of the databases as well as the quality of the content. The searches on Indigenous digital inclusion were conducted in January 2020. The searches were developed to identify the most consistent search strategy across the two databases. Although it is preferred to identify specific Indigenous peoples, "Indigenous", "Native American", "First Nations" and "Aborigin*" were used to capture a wider discussion on digital inclusion. While the searches did not include the names of specific Indigenous people outside of the Māori, other Indigenous identifiers were tested, but did not change the search results. Both Native American and American Indian were used because there was a noticeable difference between the search results. The results are shown in Table 1.

Database	Search Strategy	Initial Results	Relevant Abstracts	Relevant Articles
Scopus	TS=("digital divide" OR "digital inclusion") AND TS=(indigenous OR maori OR aborigin* OR "first nations" OR "native american" OR "american indian")	123	89	45
Web of Science	TITLE-ABS-KEY (("maori" OR "native american" OR "american indian" OR "aborigin*" OR "first nations" OR "indigenous") AND ("digital inclusion" OR "digital divide"))	74	18	13

Table 1. Search Strategy and Results

After removing duplicates between the two sets, the authors reviewed 146 unique abstracts identified in the searches. From that group, we removed posters, articles that discussed specific projects, policy, or did not directly involve Indigenous groups in the abstract. This resulted in a set of 107 abstracts. Articles and chapters were reviewed for relevance and those not focused on Indigenous communities, digital inclusion/divide, or not in English were also removed. While there are limitations to our approach (e.g. both databases include only published materials and do not cover grey literature or report literature), the results give a clear indication of the focus of published scholarly research in this area. The final set of articles analyzed contained 58 articles and chapters. Please see the list of references for all those coded in the Appendix.

In order to analyze the articles included in our search, a protocol for comparison was developed which covered:

- Digital Inclusion focus: identifying access, skills, motivation, trust
- Country (of study)
- Indigenous communities discussed
- Discipline.

FINDINGS

We applied the four elements of digital inclusion adopted by New Zealand government digital inclusion policymakers (Access, Skills, Motivation and Trust) and identified in *The Digital Inclusion Blueprint* to the set of papers (Department of Internal Affairs, 2019). The elements were chosen because of *The Blueprint's* discussion of a Māori lens for inclusion (p.8). Papers were coded for each of the elements discussed. The total number of codes adds up to more than 58 because some of the articles and chapters covered more than one element (see Figure 1).

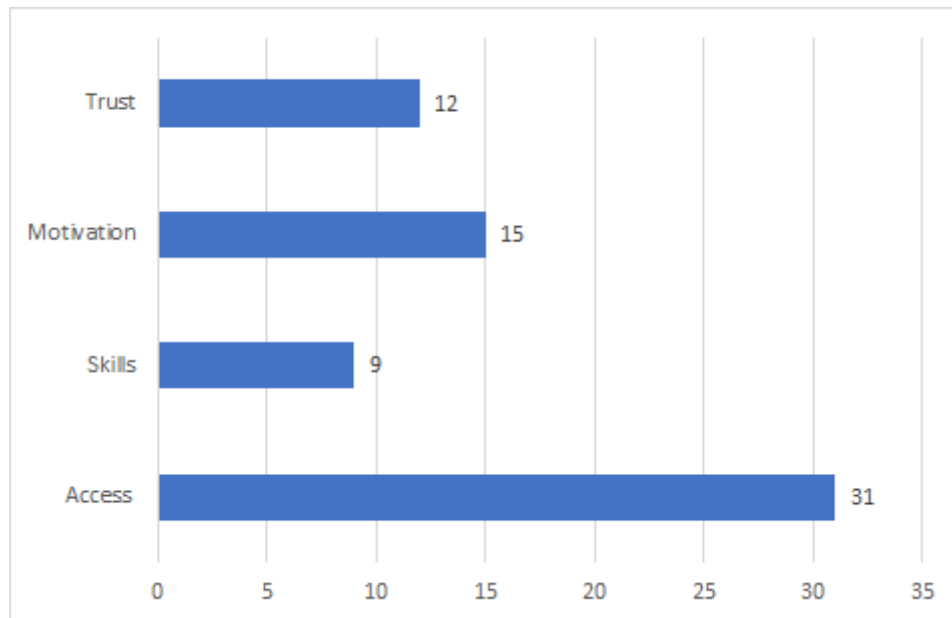


Figure 1. Frequency of Codes for Indigenous Digital Inclusion Articles 2000-2019

Access is the most common and easiest of the elements for governments to accomplish and researchers to quantify. The papers in this category spanned the whole twenty year period covered by the search, suggesting that although there is now widespread recognition that digital inclusion is not just reliant on people having the necessary hardware and software, studies often continue to take this binary perspective. Nevertheless, much of the research in the access category does go beyond the mere presentation of statistics of ownership and use, advocating a more nuanced approach that considers cultural context (Stenberg, 2018). Papers with a focus on *skills* represented the smallest proportion of the corpus; just nine were identified. Moreover, the development of digital literacy skills was often not the main focus of the research coded under this category but rather skills development was highlighted as just one consideration for those seeking to improve the digital inclusion of Indigenous communities. Papers discussing *motivation* often focused on the lack of relevant or appropriate content as well as content in Indigenous languages. Some of the narratives in the category of *trust* pick up on those raised in the motivation category with a degree of wariness noted from Indigenous people about the impact of digital technologies on their traditions and culture. Figure 2 suggests that research interest in the different areas has been reasonably consistent over the two decades of publications analyzed with the domination of research focusing on access over much of the period.

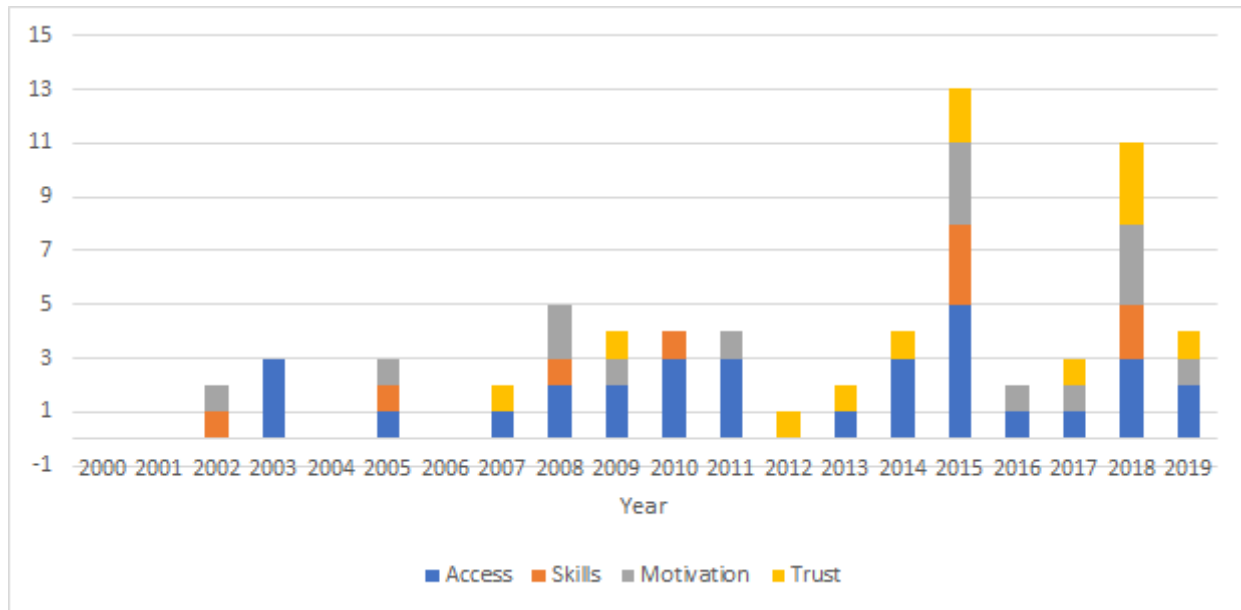


Figure 2. Indigenous Digital Inclusion Coding Articles by Year 2000-2019

Many of the papers focused on a single element, there were eight papers that were coded to at least two of the elements. Four of the papers discussed both access and motivation within the context of specific projects (Samaras, 2008; Salazar, 2008; Pohapatchoko, Codwell, Powell and Lassos, 2017; Carew, Green, Kral, Nordlinger, and Singer, 2015).

After an initial review of articles by country as identified by Scopus and Web of Science, the articles were reviewed to identify the place of study, not just the location of the first author. The aim was to identify where the work was being undertaken and establish whether any specific geographic area dominates and/or whether researchers from particular countries specialise in the field. A review of the corpus combining analysis from Web of Science and Scopus indicates that a large percentage of the research in this area is by researchers in Australia; thirty-four percent of the articles focused on Australia (n=20), while thirty-eight percent were written by academics in Australia (Table 2). Seventy percent of articles focus on digital inclusion in Australia, Canada, and the United States while seventy-nine percent of authors are located in the three countries suggesting that researchers from the three countries are undertaking research into Indigenous digital inclusion outside their country of work. While this may indicate that some researchers are researching places and people with which they may not be completely familiar, it is entirely possible that they are native to the locations/Indigenous peoples being studied but have relocated.

Geographic Location	Place of Study*	Location of first author**
Australia	20	22
United States	12	15
Canada	8	9
India	2	2
New Zealand	2	2
Malaysia	2	2
Cameroon	1	1
China	1	1
Egypt		1
Israel	1	1
South Africa	1	1
United Kingdom		1
Africa	1	
Latin America	1	
Multiple Countries	4	
Not defined	2***	

*Document content

**As Identified by Scopus or Web of Science

***Waiting for Interlibrary Loan papers with additional detail.

Table 2. Number of papers by place of study and location of first author

In addition to the location of the study, we were also interested in the Indigenous peoples discussed. Many of the articles explored Indigeneity broadly with specific examples at national and international levels (Samaras, 2005; Kizza, 2013). Other authors were quite specific in their discussion of Indigenous populations, providing locations and identifying specific peoples, aligning with Indigenous research practices (Prahdan Beetson, and Kutay, 2018; Williams et al, 2003; Smith, 2013). Appropriate conventions were not always observed in the discussions of Indigenous groups. For example, while it may not be the author's fault that typographic macrons

are not provided in text, publishers should ensure that appropriate diacritical marks, like the ā in Māori are applied (Parker, 2003). The omission of which can change cultural meaning and context and render the work disrespectful in the eyes of those whom it seeks to represent.

To identify subject disciplines, we chose to examine major subject categories identified by Web of Science and Scopus as broad indicators of field (Table 3). The papers were analyzed to identify area active in Indigenous digital engagement to answer the first research question and understand the intellectual structure of the research area. As digital inclusion is a relatively new field of both scholarly inquiry and governmental policy focus, it is important to define the boundaries of the field and map its domain to guide future research in the area. The productivity of different disciplines in the field can help us document and explain its growth and development and the various disciplinary perspectives being applied to its study.

<i>Scopus</i>	<i>Maps to Web of Science</i>	<i>Total</i>
Social Sciences	Social Sciences: Communication, Information Science Library Science, Psychology, Family Studies	33
Computer Science	Computer Science Technology Public Administration (content)	27
Engineering	Telecommunications	7
Arts and Humanities	Arts Humanities: History, Anthropology, linguistics	7
Business management and accounting	Business economics	6
Medicine		5
Decision Sciences		1
Earth and Planetary Sciences	Geography	1
Economics, Econometrics and Finance		1
Health Professions	Public environmental occupational health	2
Mathematics		1

Table 3. Subject disciplines of Indigenous digital inclusion research

We chose to map Web of Science subjects to Scopus subjects as a matter of convenience. The majority of the papers reviewed were indexed in Scopus. Articles indexed in both Web of Science and Scopus were used to verify mapping between the two sets of categories for Social Sciences (Rennie, Thomas, and Wilson, 2019), Arts and Humanities (Pohawpatchoko et al, 2017; Intahchomphoo, 2018), and Earth and Planetary Sciences (Greenbrook-Held and Morrison, 2011). Papers in both Web of Science and Scopus could have multiple subjects, though most had (29, 50%). Twenty-five papers (43%) had 2 subjects, and four papers (7%) had 3 subjects.

The majority of papers were identified with the subjects Social Sciences (33, 57%) and Computer Sciences (27, 47%). Nine of those papers (15%) were coded with both Social Sciences and Computer Sciences. Computer Science, as a subject, was used broadly within Scopus and Web of Science for information systems and information technologies, as well as the Internet. While the major subjects may not provide comprehensive detail, they do provide a general overview of the topic giving us a clearer understanding of the disciplinary context of the research and some indication of the likely approaches taken to the topic, although this is an area for further investigation. Additional analysis would also be helpful to explore if any of the four digital inclusion structural elements (Access, Skills, Motivation, Trust) are most prominent in the research within the different disciplinary areas and, if so, which. Similarly, an in-depth, qualitative exploration of how Indigenous digital inclusion is defined and conceptualized across the different academic disciplines would be instructive. We began the literature review process with the expectation that there would be clear disciplinary patterns between digital inclusion element and major subject. That was not the case.

Looking at the abstracts and keywords of the publications, it is apparent that the language of digital inclusion still incorporates much of the deficit thinking of the digital divide; the keywords most associated with the papers analyzed are *Digital Divide* and *Internet*. We contend that this is a dated approach and perspective that problematizes digital inclusion unhelpfully and suggests that Indigenous peoples are somehow “failing” at digital engagement, unable or unwilling to adopt digital technologies because of their own internal cognitive or motivational deficits. In so doing, some of the research reviewed ignores structures, policies, and practices that reinforce this hegemonic thinking. We support efforts to adopt instead a strengths-based approach in the design of Indigenous inclusion research aimed at shifting the current dominant deficit narratives.

LIMITATIONS

The lack of content from Arts and Humanities may be the result of biases inherent in the databases we selected for the review (Martín-Martín, Orduna-Malea, and López-Cózar, 2018). The searches run for this project are part of a larger literature review on digital inclusion.

CONCLUSION

We are researchers of European descent focusing on digital inclusion in Aotearoa New Zealand. We have identified a need within our university and Aotearoa for research from Māori and Pasifika worldviews. We have been undertaking research projects in the area to develop

frameworks and paths for students in Aotearoa and internationally and explore alternative, more culturally safe approaches to the issues raised.

Our initial analysis of the papers suggested that there are some disciplinary differences in the focus and approach taken but also many connections between the type of work being undertaken by researchers from disparate academic areas. On closer examination, however, we realized that was not the case. What we did find was the Indigenous peoples were often generalized and that their experiences are assumed to be the same at a national, continental, or regional level. There is still a strong focus on providing access to the Internet, and less focus on the development of skills, trust or motivation. While we did not find evidence of interconnections in themes, approaches and perspectives between scholars from different academic perspectives researching Indigenous digital inclusion, we did find deficit language is prevalent in the discussion of the Indigenous experience with digital technologies. In terms of LIS education, there is substantial work to be done to move away from considering Indigenous digital inclusion as a problem to be solved and thus perpetuating narratives of negativity, deficiency, and failure. Instead, we propose that the knowledge, skills, values, and cultural identity that Indigenous peoples bring should be prioritized in explorations of their engagement with digital technologies.

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APPENDIX: INDIGENOUS DIGITAL INCLUSION BIBLIOGRAPHY

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Exploring Data Science Learning Objectives in LIS Education

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ABSTRACT

The significance of this exploratory research is that it provides educators and curriculum developers an overview of topics, activities, and research data lifecycle stages that are represented in the library and information science (LIS) data science syllabi. The results from this study may be used for innovating new curriculum to prepare LIS students for jobs as data librarians in the 21st century library. This preliminary study gathered 128 syllabi from United States LIS programs offering data science courses for the year 2019. The research uses content analysis. Syllabi are analyzed for content through the list of weekly topics and expected learning outcomes. A list of content areas was developed from the syllabi, and then all documents were reviewed and coded against the selected content areas. Learning outcomes and objectives were then paired to the research data lifecycle stages to see how much representation of the research data lifecycle is covered in the syllabus. Course descriptions and syllabi offer insight into the goals and intended outcomes of the course, as well as detailing the content covered. The results show that LIS educators and curriculum developers are focused heavily on data analysis. While data analysis is valuable, and the analytical tools used are important, it is only one part of the research data lifecycle. Data librarians work process includes the entire research data lifecycle. Curriculum developers can benefit from this study by focusing on the areas of the research data lifecycle that is least represented in their data science syllabi to better prepare LIS students for data librarian positions in the 21st century library.

ALISE RESEARCH TAXONOMY TOPICS

data curation; data mining; curriculum; education programs/schools; academic libraries

AUTHOR KEYWORDS

data librarian; research data services; research data lifecycle; data management; data science; LIS curriculum

INTRODUCTION

A traditional and core responsibility of librarians is information management, however as we transition from the information age into the era of big data, librarians will need to have the knowledge, skills, and abilities for successful data management. Big data presents librarians with a unique problem set that requires defined and specialized skills. Today in the era of big data, data librarians can support their institutions and researchers by providing the tools necessary for supporting them through the multiple stages of the research data lifecycle. Helping researchers with fast, efficient, and effective data-driven research, repository selection, data storage, and archiving of data.

Regardless of how it is defined, a data librarians' primary objective is to use the traditional skills and strengths of the librarian to enable researchers to manage, share, publish, and/or preserve their data in the most accessible way. Data management is multifaceted, meaning a data librarian must look at different stakeholder perspectives when managing copious amounts of data at their institutions. Because librarians hold a unique position within their institutions by being either directly or indirectly connected to multiple stakeholders essential in conducting a successful research project in big data or otherwise, the emergence of data librarians along with research data services (RDS) have now become more common in the 21st century academic library.

Academic library administrators need graduates from American Library Association (ALA) accredited institutions to take on data related tasks and roles found in RDS. This is evident in job postings requiring a librarian with an ALA accredited Master of Library Science (MLS) degree that has data related experience. Federer (2018) offered an alternative to the MLS or Master of Library and Information Science (MLIS) degree requirement in job postings by suggesting that libraries could consider hiring a data generalist or subject specialist instead. While this may benefit certain institutions, most academic library job positions related to data are prioritized for ALA accredited MLS or MLIS degree holders. Library educators are aware of the need but struggle with creating a program and curriculum that supports the needs of academic library administrators. While students rely on supplementing any curriculum gaps at their institutions with day long data workshops and weekend boot camps. Workshops and boot camps are beneficial, but they have mainly been geared towards practitioners in the field. Students interested in pursuing data services in libraries need a curriculum that provides them the foundations of data science principles to be equipped with working within the research data lifecycle.

Thomas and Urban (2018) asked 105 data librarians what they think of the MLIS degree. Their study found that changing the educational model may lead to improvements in future library data services. While this study is useful it still would be beneficial for us to understand how many MLIS courses provide learning objectives that align with data services workflow, otherwise known as the research data lifecycle.

This exploratory research analyzes the extent of alignment between learning objectives in course syllabi proposed by LIS educators with the different stages in the research data lifecycle. Content analysis of LIS data science syllabi aided in the assessment of topics covered in each course, where analysis enabled course categorization into the research data lifecycle stages.

BACKGROUND

Thomas and Urban (2018) did a research on what data librarians think about the MLIS. Most felt it was out of date or did not represent the work they conduct as data librarians. Their research however provided great insight from a practitioner's perspective in updating or adopting new topics to the growing data science curriculum in LIS. Researchers (Harris-Pierce & Quan Liu, 2012; Si, Zhuang, Xing, & Guo, 2013) in the past have compared course content with job ads for different data-related positions. While aligning knowledge, skills, and abilities (KSAs) in job ads to course content is beneficial, aligning the research data lifecycle to course content could be significant in curriculum development for preparing students to take on data librarian positions in the 21st century library.

RDS is becoming an integral part of most academic libraries, where data professionals working in this service unit assist users throughout the entire research data lifecycle. Tenopir, Birch, and Allard (2012) stated that RDS are services that address the full data lifecycle. Through RDS, data librarians can best support their institution and its researchers by developing a multitude of resources and knowledge that will allow them to become an integral research partner and advocate for data projects. Data librarians can help researchers with identifying licensing issues, understanding the viability of data platforms, facilitating data storage and repository use, having a comprehensive local discovery system, identifying the characteristics of data storage needs, identifying appropriate repositories for researchers, providing the proper services and training for data analytics, and ensuring data archived can be used and re-used in the future (Du and Khan, 2020).

"Data librarianship is concerned with the representation, organization, and dissemination of data, and the use of technologies to design research data management and data services" (Semeler, Pinto, & Rozados, p.773, 2017). While data librarian positions are becoming readily available at most academic institutions around the world, the LIS curriculum has yet to create a specialization for data librarianship. RDS supports the entire research data lifecycle. To represent data librarian work in RDS, we must define the work processes found in the research data lifecycle.

There are numerous research data lifecycle models available and they provide an excellent framework to optimize data management. There is no universal agreed upon framework as different data lifecycles are designed to solve a particular problem or area in science(s) and/or data management. In Table 1 we have done a comparison of the most cited and used research data lifecycle frameworks.

Institution Name:	DataONE	Digital Curation Center	Inter-university Consortium for Political and Social Research	UK Data Archive
Stages:	Collect	Conceptualize	Proposal Development and Data Management Plans	Creating Data
	Assure	Create or Receive	Project Start-up	Processing Data
	Describe	Appraise & Select	Data Collection and File Creation	Analyzing Data
	Deposit	Ingest	Data Analysis	Preserving Data
	Preserve	Preservation Action	Preparing Data for sharing	Giving Access to Data
	Discover	Store	Depositing Data	Re-Using Data
	Integrate	Access		
	Analyze	Use and Reuse		
		Transform		

Table 1. Provides a breakdown of the models with a list of stages from each lifecycle

While Table 1 provides a breakdown of the different stages of the research data lifecycle for data consortiums. Table 2 provides a breakdown and comparison among different academic libraries research data lifecycle stages.

Institution Name:	University of Virginia	The University of California, Santa Cruz	University of New Hampshire	Carnegie Mellon University	Oregon State University	Colorado State University
Stages:	Proposal Planning	Create a Data Management Plan	Plan & Design	Design	Project Conception	Data Management Plans
	Project start-up	Manage Active Data	Collect & Process	Plan	Project Start-Up	Data Cleaning
	Data Collection	Archive Complete Data	Analyze & Interpret	Collect	Project Data Lifecycle	Data Analysis
	Data Analysis	Publish and Share the Data	Store & Secure	Analyze	End of Project	Reproducible Research
	Data Sharing	Discover & re-use data	Share & Preserve	Publish Preserve	Data Archive	Sharing
	Data Discovery		Access & Reuse	Re-Use	Data Discovery	Archiving
	Data Archive					Reuse
	End of Project					

Table 2. Provides a breakdown of stages in the research data lifecycle at U.S. academic libraries.

The stages shown in Table 1 and Table 2 are not exhaustive but provide an idea of the differences among research data lifecycle models among consortiums and United States academic libraries. Table 2 academic library list were chosen as representations for the research data lifecycle as their RDS lifecycles have appeared on multiple RDS websites and data management LibGuides in United States academic libraries.

If RDS requires data librarians to have the KSAs to walk through the entire research data lifecycle as Tenopir, Birch, and Allard (2012) stated, we seek to find if the syllabi outcomes express these same KSAs. Specifically, what topics, learning objectives and outcomes are covered in LIS data science courses? What activities in the data science syllabi reflect and align with the research data lifecycle?

METHOD

The purpose of this exploratory study is to examine the extent to which LIS schools are training their students to be data professionals for positions in RDS and work within the research data lifecycle to support their institution. This research looks at the learning objective statements in LIS curriculum and analyzes if they align with research data lifecycle stages.

This preliminary study gathered 128 syllabi from LIS institutions offering data science courses for the year 2019. The syllabi are analyzed for content through the list of weekly topics and expected learning outcomes. A list of content areas was developed from the syllabi, and then all documents were reviewed and coded against the selected content areas. Learning outcomes and objectives are then paired to the research data lifecycle stages to see how much representation of the research data lifecycle is covered in the syllabus. Course descriptions and syllabi offer insight into the goals and intended outcomes of the course, as well as detailing the content covered. Many syllabuses are linked through departmental web pages. Syllabi from MLIS programs that were offering data science courses were then retrieved.

Syllabi learning outcomes and objectives were coded based on the stages found in the research data lifecycle (Data Planning, Data Discovery, Data Processing/Curation, Data Analysis, Data Preservation, Data Sharing and Re-Use) with information provided in syllabi and course description. Content analysis of syllabi aided in the assessment of topics covered in each course syllabi, where analysis enabled course categorization into the research data lifecycle stages.

LIMITATIONS

One of the limitations is the sample size. This is due to the fact that ALA searchable database of ALA accredited programs does not include a data science or data librarianship area of concentration/career pathways. The researcher had to visit each ALA accredited program website to see if they offered a data science pathway or career track. Some LIS school websites did not offer any data science track, others offered a few courses, but syllabi were not easily accessible and therefore were excluded from the sample.

The syllabi were collected from Spring, Summer, and Fall 2019, which was advantageous as we wanted the current LIS course topics and objectives. Researchers in multiple disciplines have compared syllabi to KSAs in job advertisements. Many job postings provide a valid representation of current labor demands of hiring managers, however job ads usually include more skills than will be used in the position as managers seek a “unicorn” employee. In the case of data librarians, their work processes directly relate to the research data lifecycle. While many different models of the research data lifecycle exist, a synthesis of the different stages being used in most academic libraries was created to represent the research data lifecycle for categorizing the different syllabi topics.

RESULTS

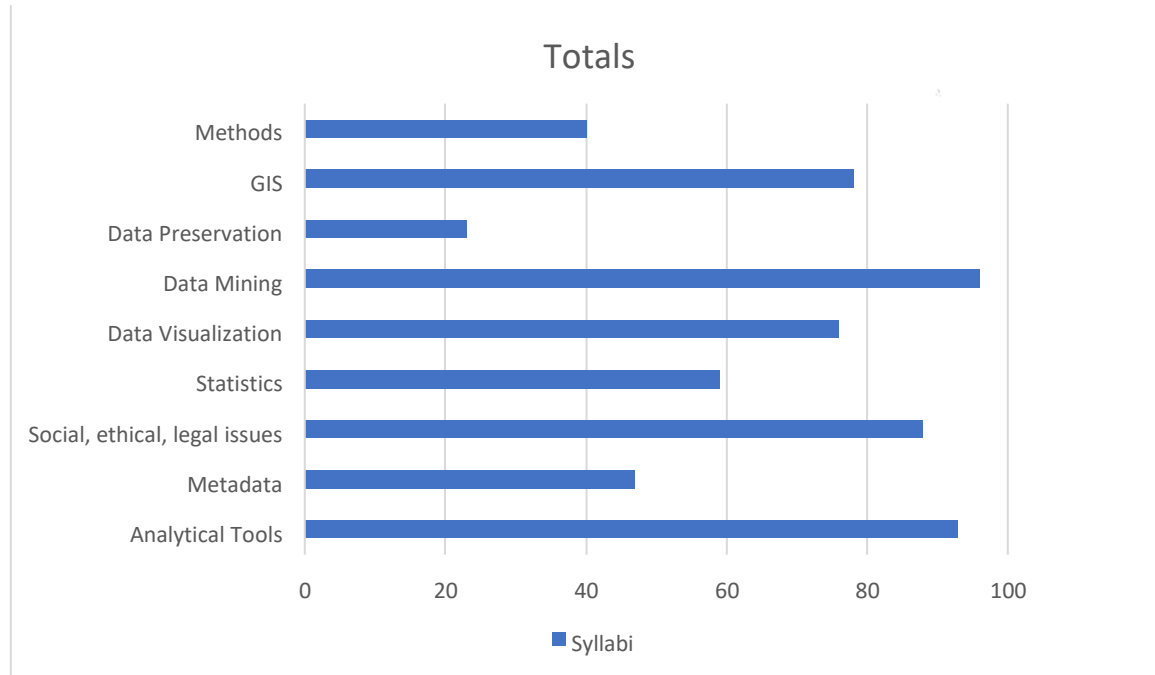


Figure 1. Topics and content areas, by syllabi

Figure 1 displays percentages for topics and content areas found in data science syllabi for LIS programs. The top three content areas addressed in the syllabi are data mining (96%), analytical tools (93%), and social, ethical, legal issues (88%). Followed closely by Geographic Information System (GIS) which is included in 100 (78%) of the syllabi. Data visualization was included in 97 (76%) syllabi. Metadata is covered in 61 (47%) syllabi. Methods and data preservation are the least represented topics in the syllabi. Methods are covered in 31 (24%), while data preservation topics were found in 29 (23%) syllabi. Data preservation covers topics, but not limited to what data to store and archive, and in what format.

While it is important to see the topic and content areas of the syllabi, we need to see how they align within the research data lifecycle to understand which areas curriculum developers can focus on in preparing graduate students to work within the research data lifecycle.

Research Data Lifecycle Stages	Learning Objective/Outcomes in Syllabi
Data Planning	37%
Data Discovery	20%
Data Processing/Curation	52%
Data Analysis	93%
Data Preservation	49%
Data Sharing and Re-Use	16%

Table 3. Research data lifecycle stages in syllabi

Figure 1 displayed topic and content areas of the syllabi, while Table 3 aligns syllabi activities into the stages of the research data lifecycle. In Table 3 we see Data Analysis stage has 93% representation in course syllabi, this includes but not limited to association rule analysis, cluster analysis, etc. Majority of course syllabi and course activities are geared towards students using analytical tools to analyze data. Data sharing and re-use activities, such as making data open is least represented in learning objectives/outcomes. Most syllabi in this sample leave out FAIR Data Principles, which is to make data findable, accessible, interoperable and reusable. FAIR Data Principles could be representative for data sharing and re-use stage of the research data lifecycle.

CONCLUSION

Data professional positions are appearing in libraries, especially in academic libraries that are providing RDS. The results from this exploratory research show that LIS educators and curriculum developers are focused heavily on data analysis. While data analysis is valuable, and the analytical tools used are important, it is only one part of the research data lifecycle. Data librarians work process includes the entire research data lifecycle. More focus in the syllabi is given to data mining and not on data collection. Perhaps topics such as methods and metadata are least represented in data science syllabi as they may be covered under core course requirements or other LIS specializations.

Thomas and Urban's (2018) research showed a lack of confidence in the LIS curriculum among data librarians, which reinforces the need to reevaluate or create new curriculum that better prepares LIS students to be data librarians. Curriculum developers can benefit from this study by focusing on the areas of the research data lifecycle that is least represented in their data science syllabi in order to better prepare LIS students for data librarian positions in the 21st century library.

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Expanding Scholarly Research from Print to Video

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ABSTRACT

Student research papers are microcosms of print journal articles, yet the trajectory of today's journal literature now includes emerging scholarly, refereed video journals. Research papers are now undergoing significant changes as the text-based world rapidly transforms into a digital landscape, including video journal articles. This research addresses a new horizon where video replaces text in academic work by faculty and students. It explores the current issues related to the reasons the academy is substituting written text with multimedia presentations. It points to a future different in degree from the one we are now familiar with: reporting scholarship in print or digital representations of print. Data collected from a research university survey of 148 faculty, librarians, and teaching assistants were augmented by 16 in-depth interviews, including professors who published in peer-reviewed video journals. This exploratory study used data from four academic subject areas of humanities, social sciences, sciences, and professional schools. The results suggest that this transition to dynamic multimedia presentations may need to redefine research papers in academia and accept video as an expanded scholarly work.

ALISE RESEARCH TAXONOMY TOPICS

scholarly communications

AUTHOR KEYWORDS

research papers; video journals; multimedia digital presentations; academic research videos

INTRODUCTION

This research looks at the changes in research papers in academia. It makes a link to what it means to be a career-ready, 'informed individual' in a multimedia digital environment. It is interesting to consider how something so common as the research paper emerged as a vehicle to communicate how faculty and students understood knowledge and how they were able to contribute to it. It is even more fascinating to speculate if the research paper can survive in a digital, multimedia era fueled by the globally ubiquitous video presence. A student's academic research paper has been perceived as a microcosm of journal articles and book chapters to benefit students who prepare work in a model that met the standards of scholars. The research paper has long roots and a history going back over a century. However, it is now undergoing significant changes as the text-based world rapidly transforms into a video landscape as it is

estimated that most of the world's information is now digital. This study aims to explore how educators in higher education perceive and evaluate the research papers in any format over time and how such changes influence the presentation of their scholarship.

LITERATURE REVIEW

Literature reviews have indicated that research papers emerged as summary documents similar to journal articles. Today's journal literature now incorporates digital formats even to the point of requiring video presentations or documentation. Over several decades, the transition from print journals to electronic journal collections also affected information seeking and reading patterns of faculty members, particularly among science faculty (King, Tenopir, Montgomery, & Aerni, 2003; Tenopir, King, Edwards, & Wu, 2009). Journals such as *Nature*, the *Journal of Visualized Experiments (JoVE)*, and the *Video Journal and Encyclopedia of GI Endoscopy* now go beyond text to present complex research processes with videos and publish them on their public websites. As competitors of peer-reviewed video materials in journal format, the *SAGE Research Methods* product and *Alexander Street Press* provide a new parameter to the communication of research projects, methods, or findings to support researchers and students through various subject-specific video tools (Stern, 2013). Videos improve scholarly communication, increasingly including supplementary data to support work that cannot be communicated by nor rely solely on published text (Kousha, Thewall, & Abdoli, 2012).

In a similar trajectory, it was recognized over a decade ago that the research papers using multimedia products could become the general or formal research term project of future colleges or universities (Mitchell, 2005). Dissertations in electronic formats have also emerged as valuable places that can embed motion pictures of biological slides, surgical procedures, engineering technologies, and even dance and drama. PowerPoint and equivalent presentation mechanisms exist as vehicles to present students' research processes. It is important to note that contemporary college classrooms have continued to offer new media for instructional technology use (Parker, Bianchi, & Cheah, 2008). The use of video could be worthwhile as an alternative to the traditional written paper for any field of study (Canet, 2019). Learning more about how educators work will be one of the best ways to assist both students and faculty members with research-related practices. This review points to the oft recognized account that new and exciting futures often had their roots in the low flying radar of disruptive technologies.

METHODS

This study focused on how college students are required to report on research. Furthermore, they are being taught to be educated and career-ready in a multimedia digital environment. It also addressed outlets used by some faculty to report their research. The investigation used here employed a mixed-method approach to defining the issues during a transition from paper-based to multimedia digital products for scholarly communication in college and university classrooms. Three groups are identified as appropriate for this study since their roles interact directly with students involved in research papers: 1) full-time professors, 2) librarians, and 3) teaching assistants. These groups have core knowledge about undergraduate research, and they engage in pursuing the shared goal of educating these students.

Aggregating specific disciplines into broad disciplinary categories identifies four academic areas: 1) sciences, 2) social sciences, 3) humanities, and 4) professional schools. The survey sample included 148 participants, and the in-depth interview sample consisted of 16 volunteers. The sample included professors who had published in peer-reviewed video journals. Models include all cases followed by analyses of the sub-groups. This study used a mixture of exploratory quantitative and qualitative data analyses to suggest hypotheses for later investigations.

RESULTS

The results of the data analyses (supported hypotheses) are:

- Educators who have higher self-perception of their technology abilities will make more use of multimedia digital publications (MDP) than those who have lower self-perception of technology abilities.
- Educators who are more familiar with MDP will make more use of MDP than those who are less familiar with MDP.
- Younger professors will publish more in journals using MDP format than older professors.
- Professors in the science areas will publish more in journals using MDP format than those in the areas of humanities, social sciences, or professional schools.

These research findings examined the likelihood of replacing text-based papers with video and other media formats in college and university classrooms. Although multimedia digital publications (MDP) and research papers using MDP formats may not be entirely accepted in academia yet, some educators are already using them through their broader roles as individuals who profess knowledge to others.

Here is the quotation from one of the interviewees' (biology and neuroscience professor) experience in publishing in a peer-reviewed scientific video journal *JoVE*, and who commented on the benefit of this from the researcher's viewpoint:

My experience was very good. [...] Our article, *JoVE* is really based on teaching people the techniques that you know how to do in your lab, which I think is really essential. We wrote a new program for looking at the input centers for nerve cells. And often trying to explain to somebody through email or writing how to use this computer program is very difficult, but if you show them through this media, actually it's much easier and people understand it better. (Kim, 2016, p. 103)

She also conversed about the advantages of video journals from the viewer's viewpoint:

From the viewer's view point, it's actually great, because they watch things being done in real time. [...] A video is often a better way than just having something written, because also there are intricacies of the way [...] maybe there's a certain way they tilt the plate that you don't get from something be written. It's just these little tiny changes that you

don't realize that you'll see on the video. And I think from the viewer's point of view it's really powerful, because they'll pick these things up by watching rather than just having something written down. (Kim, 2016, p. 104)

Furthermore, some professors give assignments to their students using multimedia digital formats regardless of whether they have MDP publication experience or not. It seems that multimedia digital papers and presentations are notably increasing in academia.

DISCUSSION AND CONCLUSIONS

This study attempts to explore how scholarly communication is changing and how this is having an impact on the definition of a student's research paper. This, in turn, casts new meaning on what it means to be an educated in a digital, multimedia society. Individuals enter a discipline at a particular point in time. It is likely that their use of MDP, such as video journals, will differ across generations, academic areas, technology abilities, digital presentation tool (DPT) use, and the instruction methods used in classes. The findings of this study indicated that younger educators, more likely from the sciences, with higher technology abilities, and more use of DPT and digital instruction methods in classes, would make more use of MDP. We might expect comments from scholarly video articles to appear in the video, where issues can be addressed using multimedia technology.

Traditional research papers may have their place in some disciplines but be less evident in other subject areas (e.g., humanities vs. science). It seems that multimedia digital papers and presentations may not be prevalent yet, but they are notably increasing in academia. This has implications for journal marketing campaigns that may hope to move from static environments to more dynamic multimedia platforms, including such formats as video or three-dimensional interactive displays. It is also assumed that the research paper's definition and format are undergoing dynamic changes and challenges in the emerging world of multimedia production.

This research also examined the likelihood of replacing text-based papers with video and other media formats in undergraduate classrooms. If the purpose of higher education is to prepare informed citizens, then the new research paper model may need to create meaningful summaries of scholarly work in a digital environment similar to the multimedia science journals. Such an understanding would be relevant when educating library and information science (LIS) professionals. It would also have a direct bearing on serving the information needs of undergraduate students. It may also address part of a larger issue identifying what it means to be a career-ready, 'informed individual' in our society.

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Using Investigative Video Games to Teach Reference Transaction Skills in Interconnected Classrooms

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ABSTRACT

As online education for the MLIS becomes widespread, one challenge for reference and user services instructors is that traditional active learning exercises used to promote internalization and personalization of reference skills may not translate to online classroom environments where real-time feedback may be more difficult to provide equitably. This article proposes the use of investigative video games to teach critical reasoning skills that are essential for competence in conducting reference interviews and searches. It provides examples of how types of reasoning are used in these video games and how, when practiced, can offer a foundation for further instruction in reference and user services.

ALISE RESEARCH TAXONOMY TOPICS

reference transactions; pedagogy; computer-supportive collaborative work

AUTHOR KEYWORDS

critical reasoning; reference instruction; video games; pedagogy

INTRODUCTION

The reference transaction is a complex interaction that requires extensive instruction and practice to master. Many of the skills associated with a successful reference encounter are behavioral, as described in the Reference and User Services Association (RUSA) Guidelines for

Behavioral Performance of Reference and Information Service Providers (American Library Association, 2013), while competency in others requires complex cognitive and social proficiencies, outlined in RUSA's Professional Competencies for Reference and User Services Librarians (American Library Association, 2017). Viewing the acquisition of complex skills through the perspective of experiential learning theory (ELT) reveals the importance of giving students sufficient opportunities to internalize and personalize relevant learning processes through engagement with action/reflection and experience/abstraction dialectics (Kolb & Kolb, 2009). Providing active learning experiences, paired with timely and rich feedback, is useful for helping students develop complex skills. Examples of traditional active learning exercises for reference instruction include live demonstrations of reference interviews and search techniques, either with the instructor or a student learning partner. These exercises satisfy the action/reflection dialectic by providing an opportunity to perform the relevant skill, paired with individual or collective critique on that attempt, and experience/abstraction dialectic by giving them personal practice with which to contextualize class readings and professional guidelines. Providing critique in a timely manner promotes learning by linking internal feedback processes, which may be thought of as metacognitive awareness of quality of task performance, and external feedback which represents instructor guidance towards a learning outcome (Narciss, 2008, pp. 130–131).

As online education for the MLIS becomes increasingly widespread (Oguz et al., 2018), one challenge for reference and user services instructors is that traditional active learning exercises used to promote internalization and personalization may not translate to distributed, larger, sometimes asynchronous classroom environments where real-time feedback is more difficult to provide equitably. Such a change in course delivery model provides an opportunity to explore innovative pedagogical approaches for teaching reference and user services skills in interconnected, online classrooms. This paper features a conceptual discussion of one such approach, exploring the possibility that commercially available video games that feature investigative themes may be used to develop and reinforce essential search and reference interview skills by promoting students' inductive, deductive, and abductive reasoning abilities. Prior work by Cohen and Portney provides an argument for the utility of video games in teaching complex decision making skills (Cohen & Portney, 2006, pp. 2–3). Further, Nicola Whitton makes a case for using games in higher education (Whitton, 2009, p. 44). The contribution of this paper is considering how games might be used to teach reasoning skills and how those reasoning skills translate to RUSA competencies.

TYPES OF REASON IN REFERENCE WORK

Beginning learners may benefit from the use of simplified conceptual models that reduce the number tasks associated with complex processes. An example of this approach is teaching introductory reference and user services skills by developing students' abductive, deductive, and inductive reasoning skills. Learning how to use these three types of reasoning provides beginning learners with both the kind of process understanding promoted in ELT and a way of connecting theory and practice for many of the RUSA competencies. Investigative video games also employ these types of reasoning, making them candidates for supporting this approach.

Abductive Reasoning

In this model, abductive reasoning is used to test hypotheses related to a user's tacit question. This is the question that, once articulated, adequately summarizes their information need. Abduction captures the constructive nature of understanding the perspectives of others and how that understanding is subject to iterative revision as the interview progresses. Rachel Ivey Clark provides an in-depth discussion of the importance of abductive reasoning skills in library practices. (Ivy Clarke, 2018).

Deductive Reasoning

Deductive reasoning here is a focus on classifying types of information by function to deduce the ideal source to obtain an answer or gather resources. That source may or may not exist, and the library may or may not have access to it, but this categorical understanding of optimal sources gives learners a place to begin based on which kind of information system is likely to return a source of that type. This is an important skill for searchers still coming to terms with the range of resources that are available.

Inductive Reasoning

Induction here is reasoning based on evaluating accumulated evidence. Employed during the search phase of a transaction, inductive reasoning evaluates search results experientially. Using keywords, subject terms, available limiters and filters to adjust the pool of results, the searcher notes which combinations best produce needed results. Unlike the hypothesis testing done in the reference interview, where some degree of intersubjective inference will always persist, the evidence of the search results pool is immediately visible, allowing for rapid revision and testing of approach.

INVESTIGATIVE GAMES

The term game mechanics is used to describe the rules of a game, including how to interact with game interfaces. A video game is an investigative one when its game mechanics allow the player to solve a mystery by finding and evaluating clues. This differs from plotted story games that feature the trappings of the mystery genre, but the game mechanics advance story proceeds through the completion of dexterity-related tasks. Investigative games often avoid stating their game mechanics, making learning them part of the discovery process. They may even obscure the end goal of the game, allowing understanding of the game's purpose to emerge slowly through gameplay. The use of trial and error is another common feature. Through these game mechanics, investigative games serve as exercises for creative discovery, encouraging the kind of hypothesis formation, testing, and classification of resources that is useful in reference and user services work. The interactive nature of these games provides immediate feedback for the learner and does so with a sense of play and visual appeal, which may promote student engagement. The following is a selected list of commercially available video games that meet the criteria of investigative video games, followed by a discussion of how they use reasoning skills.

Her Story

In Sam Barlow's *Her Story*, the premise of the game is that the player must observe digitized VHS footage of a woman being interviewed for a murder investigation over the course of several days, the footage of which is contained in a database. Some of the videos have become corrupted to where the player is only able to see the woman's responses to questions, and the different interviews are truncated and split into video clips that span from a few seconds to a few minutes. In order to uncover the truth behind the murder, the player must type key terms into a search engine to access video clips wherein the word is mentioned. However, the player is limited to viewing the first five clips that contain the keyword. By listening to the woman's responses in each video clip, the player may glean new information that may yield more results in the search engine, and thus piece together the events of the murder (Barlow, 2015).

Return of the Obra Dinn

Lucas Pope's *Return of the Obra Dinn* is a puzzle game that heavily relies on logic-based skills. The premise is that an East India Company's missing vessel, *Obra Dinn*, has reappeared, but the entire crew and passengers are found to be either dead or missing. However, the player has a mysterious compass that, when approaching a corpse, takes them back in time to the moment of death. The moment is prefaced with an audio clip of the final words spoken in that moment, and then the moment is frozen in time, allowing the player to move about the ship to observe every detail, such as the people who were present, where they were, and what they were doing. There were sixty people on the ship and the player has to identify each one by name by cross referencing a ship's log of the crew and passengers along with a sketch. The player also must decipher the ultimate fate of each person: how they died, or, if they lived, where they are now. The moment of death for each corpse in the game is divided up into chapters. The player must discover clues to determine what happened by progressing through the plot in a non-linear fashion, so some chapters might be discovered out of order (Pope, 2018).

Subserial Network

Matilde Park and Penelope Evans' *Subserial Network* is an experimental work of interactive fiction that presents itself in the form of multiple application windows that appear on the player's desktop computer. The player exists in a dystopian world where Earth is populated entirely by synthetic beings that are directed to emulate humans as closely as possible by an authoritative being called The Machine. However, there are seditious synthetics, termed Subserials that desire to augment themselves to directly connect themselves to The Net, which is analogous to the Internet. The player has been recruited by a government organization to search The Net to discover the online communities of Subserials and turn them over to the government. This goal is accomplished by using a search engine to discover websites of online communities and chat rooms where the player might contact certain synthetics by email (Evans & Park, 2018).

Abductive Game Mechanics

Abductive reasoning uses iterative hypothesis testing based on best available information, allowing for useful inferences when not all necessary information is available. One example of this use of reason in an investigative video game are moments in *Return of the Obra Dinn* when a person's death is not observed, so the players must hypothesize about the sequence and cause

of death. The game contains scenarios that are divided up into chapters. Since each scenario presents a frozen moment in time, there can be a short time gap from one character's death to another's. If the player is trying to discover the fates of crewmembers A, B, and C, the scenario might portray Crewmember B being speared, and the player might observe that Crewmember A appears off the side of the ship above the water. The player sees no corpse for Crewmember A, yet Crewmember A disappears between Crewmember B and C's deaths. The player might make the supposition that since Crewmember A was suspended over the water in one chapter, then disappears in the next, they might surmise that Crewmember A fell into the water, therefore, perished by drowning. There is no empirical evidence to determine that drowning was the cause of death, but the hypothesis explains the disappearance of Crewmember A. This abductive reasoning process parallels how students learning reference interview skills can piece together the user's tacit question through observation, interaction, and inference.

Deductive Game Mechanics

An example of the use of deductive reasoning in gameplay can be found in *Subserial Network*. During the course of the game, the player must determine the most probable location of the communities where Subserials gather. Players can deduce those locations by creating for themselves a set of decision-making rules to apply consistently. For example, if the player receives an email from a synthetic being who provides a link to a community chat room, and the player suspects that the synthetic is a Subserial, then it is probable that the community, for which the chat room is created, consists of Subserials. The rule would be if you can prove the Subserial status of the sender, you have reason to suspect locations they recommend. This construction of gameplay rules from principles parallels the construction of the rules beginning searchers create for themselves about where to begin a search.

Inductive Game Mechanics

An example of inductive reasoning in an investigative video games is the clip selection mechanic in *Her Story*. When beginning the game, the search term "murder" is prepopulated in the database search field. Underneath, there are video clips that all have the word "murder" spoken in them. Experimentation leads the player to understand that if they put another word in the database search, it may yield a video clip if one of the game's clips has that specific word mentioned in it. Since no more than five clips are viewable for a given term, players must use synonyms to gain access to other clips. This kind of retrieval through trial and error parallels how beginning searchers learn keyword searching. The presence or absence of clips serves as external feedback to give players a sense for how well they are using the search interface.

DISCUSSIONS, LIMITATIONS, AND CONCLUSIONS

The value of investigative video games as an interactive, simulative experience is that video games are not passively consumed but require the active cognitive engagement of the player. Video games have the demonstrated ability to create immersive simulations where the direct input of a player affects the course of a game and allows players intuitively to use learned skills, while presenting a clear, tangible goal: to complete the game (De Freitas & Neumann,

2009). Video games likewise have the ability to create memorable experiences that can be easily recalled, and can provide epistemic frames for in-game learning, including skill acquisition (Shaffer et al., 2005, p. 110). These kinds of games can be frustrating, much in the way that learning how to search or conduct a reference interview can be frustrating, but when the mechanics and goals emerge, they reward perseverance with a sense of earned accomplishment. Cultivating perseverance to deal with uncertainty and frustration are essential skills for all librarians. Therefore, if a game is genuinely able to teach reasoning skills, it may create moments of the same opportunities for resolving action/reflection and experience/abstraction dialectics in the game as active learning exercises completed in physical classrooms.

Some limitations for this approach include the need to gain buy-in from students that the types of reasoning discussed here translate well enough to RUSA competencies. The distinction between types of reasoning may not be obvious, and so instructors may need to be prepared to provide examples of use in library settings to satisfy both of these limitations. Due to the tropes of the mystery genre, violent or upsetting scenarios may be common in investigative games. To avoid requiring students to engage with upsetting material, use of these games should be optional, a means of supplementing student learning rather than being the instructor's only effort to provide active learning exercises and timely feedback. Efforts to identify games that use investigative mechanics should be ongoing, with preference given to those without violent tropes. Learning critical information literacy practices is an important part of education for reference and user services work but using games that reflect the norms of the dominant culture may limit opportunities to provide experience with these practices. Likewise, the fantastic or science fiction elements in some of these games may create a sense of disconnect in some users.

The abilities to conduct useful reference interviews and to construct efficient and effective searches are essential for reference and user services work but are difficult to teach without extensive repetition and opportunities for immediate feedback. Using investigative video games to supplement other active learning exercises has the potential to close the immediate feedback gap caused by the shift to online interconnected education for the MLIS. The current research is conceptual in nature and additional research is needed to provide evidence that using investigative video games facilitates the learning of reasoning skills, and that those skills promote development of RUSA competencies.

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Preparing Emerging Professionals: Whether and How LIS Faculty Teach “Soft Skills”

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ABSTRACT

Studies show that LIS employers seek professional or “soft” skills such as communication, teamwork, and interpersonal skills, making these skills essential to the employability and success of emerging professionals. This panel shares the preliminary results of a national study examining the extent to which LIS faculty are teaching and assessing these skills in their courses. Survey questions focused on skills and areas previously identified as important to employers, including, interpersonal skills; writing; communication; teamwork; cultural competence; reflective practice; customer service commitment to diversity, equity, and inclusion; presentation skills; and flexibility and adaptability.

The presenters will provide some brief background on previous studies that highlight the demand for soft skills by employers and share the findings of the current study. The results of this study provide a baseline of the extent to which LIS faculty are addressing these important skills, as well as insight into the specific instructional strategies they use to these skills. They also offer an overview of faculty perceptions the importance of soft skills for career success, and their role in helping students develop such skills. The findings could help guide curriculum at the individual faculty level by providing insight and inspiration for lesson planning and course design, and could also inform curriculum decisions at a programmatic level by providing an overview of the extent to which these skills are currently addressed and identifying potential gaps in the curriculum.

ALISE RESEARCH TAXONOMY TOPICS

curriculum; pedagogy; teaching faculty; education programs/schools

AUTHOR KEYWORDS

LIS education; competencies; soft skills; professional skills; curriculum; teaching methods; faculty

Informing the First Generation MLIS Experience: Challenges & Resources

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ABSTRACT

While MLIS programs have historically served as “launching pads” into professional careers, few programs identify and focus on the experiences of FGS (students first in their families to earn a master’s or professional degree). Programs and faculty thus remain largely unaware of this student identity or how it constitutes relative “invisibility.” Programs and faculty are likewise unaware of the ways in which one’s status as FGS and class, ethnicity, race, and linguistic diversity intersect.

Not long ago, Professor Gabrielle Foreman acknowledged one of the central facts of being an FGS: “For first-generation students and students of color, asking for help feels like begging. For more privileged students, asking feels like networking.” Education research appears increasingly interested in FGS experience, though MLIS programs exhibit little curiosity about this demographic. Can MLIS programs better address the challenging experiences of first-generation students (FGS) as they prepare to thrive in the profession? This panel introduces and explores experiences that remain largely hidden but nevertheless can hamper student success not only in school but in professional practice beyond.

The panel introduces questions particularly relevant to graduate MLIS programs, several of which recently surfaced in two preliminary studies (funded by the American Library Association and ALISE). Interview findings revealed three key question clusters: first, acknowledged academic skill deficits; second, insecurities FGS perceive regarding development of social capital for matriculation and the professional world beyond; and third, questions concerning a variety of familial and cultural issues impacting FGS success.

This discussion begins to explore these questions, raises FGS visibility, and inaugurates a broader ALISE conversation to help students, their programs, and their instructors. Presentations and open discussion will address issues challenging FGS students with respect to academic skills; issues connecting self-doubt in information seeking and decision-making, social support; and cultural challenges that can inhibit the self-efficacy required to overcome the “begging” illustrated in Foreman’s quote.

ALISE RESEARCH TAXONOMY TOPICS

students; teaching faculty; curriculum; diversity, equity, & inclusion (DEI)

AUTHOR KEYWORDS

first generation students (FGS); online education; MLIS programs

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Connecting Rural Public Libraries to LIS Education and Research: The Case of Health Services, Programs, and Partnerships

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ABSTRACT

In our increasingly interdisciplinary field, health professionals, advocates, and researchers frequently look to public librarians as partners. This trend may be particularly important in small and rural communities, where the public library occupies a uniquely important role given the disinvestment in health infrastructure in those communities. How are both current and aspiring small and rural public librarians receiving the education, training, and ongoing support needed to foster and sustain health services and programs with local, regional, and national partners? This panel draws attention to and discusses these issues in three ways: 1. Showcasing connections across three Institute of Museum and Library Services funded projects focused on small and rural public libraries and health; 2. Fostering audience interaction by soliciting questions and feedback prior to the conference; 3. Engaging in dialogue about how LIS educators can form and sustain connections to public librarians, particularly in small and rural communities. Topics the panelists will explore or discuss include, 1. What challenges and opportunities are associated with forming and sustaining partnerships with small and rural librarians, particularly in grant funded projects? 2. How can LIS educators learn from the experiences of rural and small librarians to ensure that LIS graduates have the knowledge and skills to be successful in their communities? 3. What additional work is needed to understand and support small and rural public librarians as catalysts of social justice and health justice?

ALISE RESEARCH TAXONOMY TOPICS

public libraries; community and civic organizations; community-led services; social justice

AUTHOR KEYWORDS

rural health; public libraries; health equity; community engagement

Library and Information Science Across Disciplines

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ABSTRACT

At the heart of library and information science (LIS) is the process of seeking information, gathering and storing it, and then putting it to use - often by its dissemination to others. LIS is a field that immerses itself in the continual improvement of this process- which consequently is also the lifeblood of every academic domain. Using concrete examples, this panel proposes to discuss how LIS as an interdisciplinary field threads through other fields. Just as information is fundamental to knowledge, the processes regarding information retrieval, storage, and use that LIS is constantly seeking to refine are integral to all academic domains. The five members of this panel represent five institutions and five disparate areas of LIS research. What they have in common is their expertise in developing collaborative research partnerships with outside areas. Each panelist will discuss their experiences in seeking out and creating these productive collaborative relationships and how they see the interdisciplinary nature of LIS impacting their work. In addition to the panelists presentations, the audience will be polled on their research and professional collaborations with outside disciplines and the results will be displayed using data visualization software. Finally, the panelists will solicit crowd participation and open the floor for a discussion on experiences significant to the theme.

ALISE RESEARCH TAXONOMY TOPICS

education programs/schools; scholarly communications; information needs; pedagogy; research methods

AUTHOR KEYWORDS

interdisciplinary; research practices; collaboration; scholarship

Podcasts and Partnerships: Learning Through Listening and Content Creation

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ABSTRACT

Scholarly and practitioner interest in educational/pedagogical podcasts has been evident in many areas of educational praxis since 2007; however, we have seen relatively little attention to podcast pedagogy in LIS, despite the field's role as an early adopter of media-making pedagogies. We see podcasts as a means of extending learning beyond our immediate environs by connecting with others, either across the globe or from the reaches of the archives. We will offer a discussion of varied collaborative frameworks that can support podcasting as a pedagogical praxis. The panelists have done research and developed podcasts in multiple courses and grant-funded, open-source settings. This range of experiences and learning environments enables the panel to make recommendations to instructors who want to bring new media (and new voices) into their classrooms, giving attention to both risks and rewards. Our panel will discuss developing podcasts as open-source learning resources and as community engagement assignments that challenge students to develop technology- and listening- based skills. Based on interdisciplinary theories and experience, this panel identifies emergent best practices for using podcasting in conjunction with instruction and learning. During this panel, we envision time for information sharing and discussion.

ALISE RESEARCH TAXONOMY TOPICS

pedagogy; education of information professionals; community engagement; social media

AUTHOR KEYWORDS

podcasts; partnerships; pedagogy; libraries; community engagement; critical making; learning

Critical Data Approaches to the Interconnected Library

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ABSTRACT

This panel borrows from critical data approaches to explore the library as a site of interconnected information assemblages that incorporate (and consolidate) a range of technological, cultural, political, economic, and social arrangements. Critical data studies asserts data, like libraries and technology, are not neutral and value-free. Part one of the panel grounds the conversation in empirical research. Part two will be a discussion about how LIS education can further integrate and support critical data approaches to better prepare library workers to serve diverse communities, particularly those that are most vulnerable in this data environment.

Part one: Making connections, mapping power

LaTasha Velez and Melissa Villa-Nicholas's research explores how Latinx people are described through metadata in LIS classification schemas. By analyzing controlled vocabularies and subject terms in article abstracts for LIS databases and journals, they visualize how Latinxs are portrayed in the LIS field more broadly. Understanding patterns of how Latinxs are classified in our field is critical for revealing bias in LIS systems that are interconnected to broader power dynamics which contribute to discrimination and classism.

Miriam Sweeney and Emma Davis's research draws from a national survey of public, school, and academic libraries and begins to fill a gap in empirical knowledge about smart digital assistant and voice interface use in libraries and documents a wide variety of privacy concerns voiced by library workers. Understanding the application of these emerging technologies has important implications for developing responsive library practices, policies, and educational opportunities that prioritize patron privacy and data literacy in an interconnected landscape of ubiquitous surveillance technologies.

Part two: Setting the critical data agenda for LIS education

During the open discussion section of the panel, some topics we may explore include how critical data perspectives help us answer the following questions:

- What are the most pressing social issues related to the library data environment?
- What does LIS accountability look like at micro and macro levels?
- How does LIS education need to shift to prioritize these questions?

ALISE RESEARCH TAXONOMY TOPICS

specific populations; critical librarianship; metadata; information ethics; social justice

AUTHOR KEYWORDS

critical data studies; critical LIS pedagogies; marginalized populations; asset-based model

Poetry and the “Voice” of LIS Educators: Transforming the Fabric of Lives and More

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ABSTRACT

Lost in the scope and study of library and information science (LIS) education within our hegemonic immersion in contemporary neoliberal values, structures, and systems, we unfortunately have marginally examined the power of poetry in knowledge-action discourse that shapes our directions as well as inspires those of others. An opportunity lost for the poets among us, in providing a window towards better understanding of interconnections in our life experiences and professional activities in and beyond the academy, be it in our research, teaching, service, administrative or creative activities of engagement and empowerment. This panel serves to bridge the gaps in its glimpse of how poetry can actualize its potential to enable transformations and make a difference in the fabric of our lives.

Three library and information science educators (LIS) draw on their poetry and that of others to illustrate its role in their personal and professional streams of life journeys. The panel explores the power of poetry as “voice” in transforming their lives and shaping their motivations, directions, choices, and actions at intertwined personal and professional levels of intersection. The interactive panel provides an opportunity to the audience to discuss the use of poetry in its transformational potential within and beyond the academy. The panel draws on the theoretical construct of “voice” as an instrument of self-consciousness, narrative development, storytelling, and discourse analysis. The three presentations include:

1. Internal Resistances and the Power of the Local (Elmborg)
2. The Personal is Poetical (Weddle)
3. “If life gives you mangoes, make banana shake”: Poetry to Enable, Empower, and Transform (Mehra)

ALISE RESEARCH TAXONOMY TOPICS

education of information professionals; sociocultural perspectives

AUTHOR KEYWORDS

poetry; LIS educators; “voice”

Preparing Librarians to Research in an Interdisciplinary and Interconnected World

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ABSTRACT

Literature suggests that despite the known benefits of interdisciplinary and comparative research, Library and Information Science (LIS) as a field struggles to realize the benefits afforded by these approaches (Lor, 2019; McNicol, 2003). Lack of preparation is often floated as a cause (Lor, 2019), with the LIS curriculum offered as a possible solution for bridging the ability-practice gap (McNicol, 2003). The research methods course is best positioned to prepare future librarians for interdisciplinary and comparative research, but little is known about the approaches taken in these courses to prepare future practitioners for this type of research. This panel offers insight into LIS research methods courses from a comparative perspective, sharing various approaches to preparing LIS students to be researchers in an interconnected worlds.

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ALISE RESEARCH TAXONOMY TOPICS

curriculum; education programs/schools; pedagogy; research methods; teaching faculty

AUTHOR KEYWORDS

research methods; interdisciplinary research; comparative research; LIS curriculum

Wait, What College are you From? The Innovative, Interdisciplinary Approach to LIS Education through the Lens of Emergency Preparedness, Homeland Security, and Cybersecurity

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ABSTRACT

UAlbany's ALA-accredited MS in Information Science (MSIS) program relocated to the newly created College of Emergency Preparedness, Homeland Security and Cybersecurity (CEHC) in 2018 after a significant restructuring of its home college into an engineering school. Before the relocation, enrollments in the program had been steadily declining to the point where potential dissolution of the department was seemingly inevitable. The light at the end of the tunnel came when the CEHC dean integrated the MSIS program into a first-of-its-kind college created to educate, train, and prepare the next generation of emergency responders, intelligence and data analysts, and cybersecurity specialists.

The story of our transformation is representative of broad-spectrum changes that current LIS programs can strategically embrace to remain relevant and sustainable for the future. "CEHC's IS program is [at] the hub of an innovative ecosystem that embraces a new model of living classrooms created to foster the creation and testing of theory and practice within operational and instructional spaces" allowing our students and faculty to endeavor into new realms of possibility unimagined by a department previously on the verge of extinction (UAlbany Self-Study, 2019).

CEHC has embarked on a series of creative, and sometimes challenging, ventures that have established itself as the destination and growth college at UAlbany. Initiatives such as the creation of two new MSIS concentrations - Intelligence Analysis and Data Analytics – and a new, accelerated path to the master's degree - known as the '4+1' program - reflect our mission to redefine the role of information professionals in growing, state-of-the-art disciplines where data and information are at the core of decision-making processes and actionable knowledge methodologies could profoundly affect the safety and security of our nation.

ALISE RESEARCH TAXONOMY TOPICS

curriculum; instruction; education; universities; strategic planning; informatics; technology

AUTHOR KEYWORDS

universities; instructor; faculty; administration; strategic planning

LIS Education in a Pandemic Era: Innovative Teaching Methods, Strategies, & Technologies

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ABSTRACT

The evident diversity in LIS programs around the globe calls for a suite of innovative methods and strategies that allow educators not only to impart the necessary content but also the technological and pedagogical know-how required to work across the LIS teaching and learning spectrum. To further explore these themes, the organizers of this panel facilitated an interactive and lively discussion on the topic at the ALISE 2019 conference. There was much interest on the part of the attendees about continuous engagement with, and deeper discussions about the topic. Hence, this is a follow up interactive panel discussion that focusses on lessons learnt and novel approaches to innovative teaching methods, strategies, & technologies for a shifting landscape in LIS education. While the 2019 lively session elicited important issues, including potential risks and challenges of innovative teaching methods, strategies, & technologies; competencies required of educators and students; ensuring student engagement, interaction, participation, collaboration, reflection, and creativity; and producing reflective practitioners, these issues are even more crucial now. Hence, they require continuous discussions, given that the current and similar future pandemics require a shift in how educators teach and students learn.

We aim to facilitate a discussion where audience members can react to and provide opinions on questions/scenarios with respect to innovative teaching methods, strategies, & technologies in LIS education. Panelists will begin with an overview of the session to provide some context and set the stage for an interactive audience participation. Small groups will be asked to engage in a deeper discussion of the issues outlined with the ultimate goal of sharing ideas and practices among members of the audience. We aim to generate concrete and actionable ideas and recommendations with respect to: (1) potential risks and challenges of experimenting with and adopting innovative teaching methods, strategies, & technologies; (2) competencies required of both LIS educators and students; and (3) ways to ensure student engagement, interaction, participation, collaboration, reflection, and creativity, especially at a time when what is considered “normal” teaching and learning workflow is disrupted due to the pandemic. We will initiate the development of online shared crowd-sourced links and resources that will provide both summaries of the discussions from the 2019 and 2020 conferences as well as ideas and strategies.

ALISE RESEARCH TAXONOMY TOPICS

pedagogy; curriculum; online learning; teaching faculty; students

AUTHOR KEYWORDS

innovation; methods and strategies; LIS education; pedagogy; curriculum

Crisis Management, COVID-19, and Libraries: Implications for LIS Education

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ABSTRACT

LIS educators contribute a unique perspective in preparing an information workforce ready to meet the challenges associated with crises. This panel addresses issues related to emergency planning, effective communication, and crisis management along with the important connections to and implications for LIS Education. The panel begins with a presentation on public libraries' coalition building and joint responses to crises. In this portion of the panel, Dr. Noah Lenstra discusses how public librarians are navigating this facet of their work during the COVID-19 pandemic, setting the stage for broader discussion on how partnerships and programming fit within library emergency planning, and how LIS education can help prepare future librarians for these tasks. Dr. Rachel Williams will address the results of a survey on public library responses to COVID-19. Her presentation examines how public libraries responded in the moment to an emerging pandemic and how the developing knowledge around crisis management and personal and organizational resilience are important skills for emerging public library professionals. Sharing her experiences as a public library Board of Trustees member, Dr. Laura Saunders' talk expands on the conversation related to public libraries. Her presentation introduces issues related to academic libraries' responses to crises and opportunities for course development in these areas. Drs. Lisa Hussey and Deborah Charbonneau wrap up the panel presentations through an examination of the current state of disaster management courses. Their discussion also outlines suggestions for incorporating emergency planning and crisis management into the LIS curriculum. To facilitate engagement on crisis management in LIS education, audience participants will be invited to share their experiences navigating the COVID-19 pandemic, as educators and advisors, and as colleagues of and collaborators with professionals.

ALISE RESEARCH TAXONOMY TOPICS

public libraries; academic libraries; curriculum; community and civic organizations; education

AUTHOR KEYWORDS

LIS education; library responses to crises; community partnerships; disaster management training

Introducing The Tree of Contemplative Practices

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ABSTRACT

Contemplative pedagogy has the potential to transform Library and Information Science (LIS) education in positive ways. This panel is hosted by instructors who have embraced contemplative pedagogy in their courses and wish to share a signal tool—*The Tree of Contemplative Practices* (Duerr, 2004)—with the ALISE community. The Tree is a graphic representation that helps educators and students alike to understand the main principles and seven major types of contemplative practice. Using the Tree as a framework, enthusiasts can learn contemplative practices in a systematic, secular, and bespoke manner. In the spirit of contemplative pedagogy, this panel will unfold through storytelling and embodied learning. Sequentially, the three presenters will: 1) Encapsulate their commitment to contemplative pedagogy; 2) Recount an application of *The Tree of Contemplative Practices* in their teaching; and 3) Demonstrate one of the Tree's major limbs and branches (such as the "Movement" limb and its contemplative practice of walking meditation). Ample time will follow these presentations for open discussion. At the conclusion everyone will be invited to join a virtual community devoted to extending contemplative pedagogy across LIS.

ALISE RESEARCH TAXONOMY TOPICS

pedagogy; students; information use

AUTHOR KEYWORDS

contemplative pedagogy; Tree of Contemplative Practices; information; contemplation

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Integrating Community Engagement in LIS Curriculum

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ABSTRACT

The IMLS funded project Transforming Libraries into Community Anchors in Rural Texas (TLCART) supports the use of information and communication technology in community engagement in rural Texas. This poster presentation showcases community projects initiated by students of the cohort demonstrating one of the project goals to embed community engagement into student learning.

Students are asked to dream, research and plan for desired changes for sustainable community improvement. Research to support the proposed projects includes understanding demographics, studying community needs, identifying stakeholders and collaborators, planning for budget and timeline, and assessment of intended outcomes. Cohort students will continue their projects with community coalition building activities and develop their design and implementation plans in their coursework in Summer and Fall 2020.

ALISE RESEARCH TAXONOMY TOPICS

education; community engagement; curriculum

AUTHOR KEYWORDS

curriculum development; community informatics; rural libraries; community development

The Beginning of a Marriage: Content Analysis of Official Announcements of University Press/Library Partnerships

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ABSTRACT

The Wayne State University Press reinstated fired leadership and switched its reporting from the Dean's Office of University Libraries to the Office of the President in February 2020—it has been only several months after it joined the university library in fall 2019. This unsuccessful partnership between university press and library immediately sparked discussions within and outside the scholarly publishing community. People asked questions about the future of similar partnership between university presses and academic libraries, especially when more university presses are moving under libraries.

This work-in-progress research examines the initial agreement between university press and library when the collaboration first started. This study is collecting official announcements of university press/library partnership in the U.S. in the past 10 years, and plan to conduct a structured content analysis of these announcements to address the following questions: 1). How did both parties define their partnership? 2). How did both parties explain the reasons for establishing partnership? 3). What were the two parties' expectations on their partnership?

This study will inform the academic library and university press communities about their initial purpose and expectations of such partnership, which would help them to reflect on the current status of existing collaborations and prevent the dissolution of such partnership. These reflections would play a critical role in improving the sustainability of scholarly publishing field. The findings will also encourage LIS educators to think about how we should depict and educate future librarians about the relationship between academic libraries and university presses.

ALISE RESEARCH TAXONOMY TOPICS

scholarly communications; academic libraries; publishing.

AUTHOR KEYWORDS

academic libraries; university presses; partnership; content analysis; scholarly publishing.

Development, Learning, and Equity in Child- and Youth-Focused Courses in ALA-Accredited Master's Programs

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ABSTRACT

To support and empower the next generation of library and information science (LIS) practitioners, the LIS community must take seriously the opportunities and challenges that come with serving today's children and youth. While LIS educators are uniquely positioned to promote equity-oriented understandings of child development and learning in their courses, the extent to which they currently do so is unknown.

This poster presents in-progress findings of an analysis of child- and youth-focused course syllabi. The website of each ALA-accredited master's program was examined to identify those courses focused on children and youth (including courses in the areas of children and youth services and school libraries). For each course, the syllabi and reading list was obtained by downloading those available online and/or contacting the instructor of record to request these materials. In our analysis, we focus on the extent to which the following are evident in these courses' descriptions, learning objectives, readings, and assignments: 1) theories and concepts related to child development, learning, and equity; 2) emphasis on child- and youth-centered approaches to designing and delivering library programs and services; and 3) inclusion of emerging topics (e.g., library makerspaces) that reflect ongoing transformations within child and youth services.

An understanding of the current curricula in courses related to children and youth is necessary to help LIS educators identify existing gaps between research, education, and practice. This analysis will yield timely insights into the range of approaches and orientations to child- and youth-centered courses being offered by ALA-accredited master's programs.

ALISE RESEARCH TAXONOMY TOPICS

children's services; young adult services; public libraries; school libraries; curriculum

AUTHOR KEYWORDS

syllabi review; child & youth services curricula; school library curricula

Exploring Cultural Competency in Academic Libraries

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ABSTRACT

As institutions of higher education in the United States become increasingly diverse it is imperative that academic librarians demonstrate cultural competence to best serve all students. In this works in progress poster, I explore what cultural competency looks like in practice at academic libraries. Conceptualizing cultural competency as a spectrum, and as abilities one continually strives to improve, the present work considers professional development and training opportunities in the professional lives of academic librarians and staff. Interview data from three academic librarians and one academic library staff member provided insight into how these individuals engage with diverse students in all aspects of their work. Additionally, interviews with a library director and head of public services provided insight into institutional and organizational level engagement with diversity, inclusion and cultural competency. Content analysis of the interview transcripts examines three themes: difference and diversity, engagement with students and professional development opportunities. This work discusses these themes utilizing Montiel-Overall's (2009) cultural competency framework for library and information professionals and the American Library Association's (2012) Diversity Standards: Cultural Competency for Academic Librarians. This works in progress poster also includes a discussion of the challenges in conducting qualitative research given the effects of COVID-19 and how the research project was altered because of the ongoing pandemic.

ALISE RESEARCH TAXONOMY TOPICS

academic libraries; continuing education; critical librarianship

AUTHOR KEYWORDS

academic libraries; cultural competency; higher education; professional development

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Remote Research and Online Coursework: Complimentary Experiences Prove Valuable for Graduate Students

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ABSTRACT

Technology has enabled many collaborations across the globe, allowing people to work together in entirely new ways. Some industries have embraced remote interaction whether they are conducting day to day business or teaching courses online. Since 1999 library and information science programs have offered online distance learning courses and now entire graduate programs. With the increase in remote, interactive, and collaborative learning, more graduate students have had a chance for online graduate assistantships. In 2019 three MLIS graduate students located in different states began work on a remote research project on health and wellness headed by several professors also located in various states. Each are pursuing their degrees online and have not worked in a professional capacity in a library setting. This study summarizes the preliminary experiences these students encountered while managing remote course and grant work. The preliminary findings highlight challenges including: asynchronous correspondence, analyzing second hand collected data, finding adequate collaborative software, and synchronizing data coding. What the graduate students learned from this experience suggests that regardless of where students plan to work after graduation, they have transferable skills they can take away from graduate assistantships that compliment their coursework and offer invaluable field experience.

ALISE RESEARCH TAXONOMY TOPICS

education; online learning; research methods; public libraries

AUTHOR KEYWORDS

collaboration; technology; data collection; interpersonal communication; remote work; online learning

A Multi-Aspect Topical Analysis of User-Generated Content

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ABSTRACT

As analyzing and understanding users' online reviews has increasingly become an essential part of the business decision, there has been sufficient research on online reviews about products and services. However, there have been few studies done on the usefulness of online book reviews for understanding users' interests in discussing books. This study is part of a larger research project that aims to investigate whether online reviews on children's books would represent significant factors in selecting books for children. This study extends our previous research on the topical analysis of online reviews on Goodreads.com. In this study, we aim to identify users' interests in discussing books by analyzing the frequency of words that users used in their book reviews. This study also examines whether the patterns of word frequency would help understand the features of books. The findings of this study contribute to identifying multi-aspect topics of a book that users are concerned about in reviewing the book. This study has implications for providing practical insights into the intrinsic values of users' book reviews at the social networking site.

ALISE RESEARCH TAXONOMY TOPICS

data mining; natural language processing; classification; metadata

AUTHOR KEYWORDS

online reviews; user-generated content; social networking sites, text analysis

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Research-Based Development of a Health Information Professional Concentration and Certificate

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ABSTRACT

Health information professional (HIP) refers to “information professionals, librarians, or informaticists who have special knowledge in quality health information resources” (MLA, 2017, para. 2). The diversity of emerging HIP roles indicates daunting challenges unique to LIS students pursuing HIP careers and to LIS programs endeavoring to develop and update specialized LIS curricula for HIPs. This poster explicates action research built upon the findings of a sequential two-phase project, which included a scoping literature review of scholarly publications on the topic of HIP roles and skills and a survey of employers on the competencies and attributes expected of entry-level HIPs (Ma et al., 2018; Ma et al., 2020). This action research project seeks to create a HIP Concentration and Certificate with course learning outcomes developed and adapted from core HIP professional competencies and employer expectations identified in the two-phase project. Students planning to pursue the HIP Concentration or the HIP Certificate may customize their trajectory with courses including health sciences librarianship, consumer health information, a seminar in current issues for HIP, health informatics, health information systems and management, and health disparities for diverse health communities. Through adapting and consolidating existing courses, LIS faculty and advisors can effectively counsel students early in their studies, inform them of required professional competencies and desirable qualifications, and facilitate work-integrated or pre-professional learning opportunities within and beyond the curriculum. It is hoped that this project will provide an evidence-based approach to developing future specialized HIP programs in LIS education.

ALISE RESEARCH TAXONOMY TOPICS

curriculum

AUTHOR KEYWORDS

health information professional, professional competency, evidence-based approach

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Student Privacy in the Datafied Classroom: Privacy Practices in an Interconnected World

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ABSTRACT

In an interconnected world, student privacy concerns take on increasingly higher stakes. To address the imminent concerns of student privacy, this work-in-progress study investigates faculty perspectives of student privacy and their practices in relation to emerging learning analytics tools and initiatives. The project is motivated by the team's previous research (Jones & VanScoy, 2019) that analyzed more than 8,000 library and information science syllabi and found that there is a need to better understand how faculty perceive student privacy issues and strategize to address them in practice. The current project consists of three phases; during the first phase, the research team is conducting a survey with faculty from diverse disciplinary backgrounds who have online and face-to-face instructional experience. For the second phase, the team will use phase-one data to pursue interviews with faculty members who participate in the survey. In the third and final phase, the team will aggregate key findings from the research phases and the extant literature to facilitate discussions between faculty and librarians. Results from the phase one survey will be available to present on the poster. Focusing on instructors' attitudes toward personal privacy and student privacy, their knowledge of privacy policies and learning analytics, and their instructional practices, the findings will deepen our understanding of student privacy in the interconnected educational environment.

Jones, K. M., & VanScoy, A. (2019). The syllabus as a student privacy document in an age of learning analytics. *Journal of Documentation*, 75(6), 1333-1355.

ALISE RESEARCH TAXONOMY TOPICS

information privacy; information rights; data management; data science; information technologies

AUTHOR KEYWORDS

education; privacy; student privacy; instructional practices; learning analytics

Empirical Studies of Information Seeking Behaviors during Pandemics: a Review of Theoretical, Methodological Issues and Implications

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ABSTRACT

This work-in-progress poster aims to report the results of a systematic review of empirical works of information-seeking behaviors during pandemics, with the focus on the most recent past pandemic, the 2009 H1N1 Influenza. Through the review, the author attempts to extract common themes and present comparative approaches in terms of theoretical frameworks of information-seeking behaviors, research designs, and how and what implications are drawn. The results will help form a better understanding of the information-seeking behaviors during pandemics as closely explored and discussed in these studies, meanwhile, plow the way for looking at how information-seeking has evolved during the current COVID-19 Pandemic.

With the majority of the world population under the shadow of COVID-19 and approximately 90% of the US population under self-quarantine for an extended period of time, the physical restrictions have forced the information-seeking behaviors to be more virtual. The topics of information sought after have also gone beyond health concerns, such as symptoms, protective measures, and vaccines, but online shopping, virtual school, work from home, social distancing, unemployment and etc, a much broader range of issues that are essential for the general public to maintain a normal life under new norms. With a drastically different development of the virus and measures taken to contain and cure the cure and much more serious consequences as compared to H1N1 Pandemic, COVID-19 has presented a unique setting for revisiting information-seeking behaviors during pandemics. The implications that are drawn from this assessment of the post-H1N1 Pandemic information-seeking behavior researches will inspire further discussions of theoretical models and research methodologies.

ALISE RESEARCH TAXONOMY TOPICS

information needs; information seeking; information use; research methods

AUTHOR KEYWORDS

information seeking behaviors; COVID-19; pandemic

The Battle for History in The Magic City: Historically Generated Contexts and The Rise of Pluralistic Collecting Institutions in Birmingham, Alabama

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ABSTRACT

Across the American South, collecting institutions created by city and state governments and private organizations, preserve and communicate complex local, personal, and regional histories. Each of these institutions, for different reasons, influenced by their particular set of historically generated contexts, emerged to preserve and present this information to their communities. In addition to their individual contexts, each institution has various organizational and community elements, for example mission statements or community support and interest, that helps to drive their relationships with their communities. Throughout the South, these historically generated contexts and institutional elements DO inform how memory institutions interact with their communities and researchers.

In Birmingham, Alabama there are many collecting institutions that manage the history, narratives, and stories of that city. Two of the main ones, especially when it comes to the Birmingham Civil Rights Movement, that movement's aftermath, engagement with their community, and Birmingham's relationship with social justice, are the Birmingham Public Library Department of Archives and Manuscripts (BPLDAM) and the Birmingham Civil Rights Institute (BCRI). The goals of each institution revolve around telling the complete story of the history of Birmingham and the Birmingham Civil Rights Movement. This means not falling back on a master narrative like that of Jim Crow and white supremacy but moving towards the goals of a pluralistic historical narrative, pluralistic culture and society, and pluralistic collecting institutions.

ALISE RESEARCH TAXONOMY TOPICS

knowledge management; records and information management; archival arrangement and description; information seeking; information use; intellectual freedom; community engagement; archives

AUTHOR KEYWORDS

research; education; social justice; civil rights; history; libraries; community archives; community engagement

Levels of School Libraries: A Problematic Paradigm

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ABSTRACT

Past research studies have consistently demonstrated a positive correlation between high-quality school library programs and student achievement. Minorities, students from low socioeconomic families, and students with disabilities benefit most from strong school library programs which contribute to closing the achievement gap for vulnerable learners. This work in progress outlines a planned research-practice partnership between faculty at East Carolina University and the Community School. Currently, Community School students only have access to classroom collections and a book repository. This serendipitously occurring environment provides the opportunity for a pilot study to define current access and impact on student achievement. The researcher will conduct semi-structured interviews of the school librarian in the local elementary school as well as Community School administrators, parents, and teachers ($N = 8$). Results of these interviews will describe the levels of access for Community School students and the possible impact on student achievement, laying the groundwork for a causal research study when the Community School students gain access to the school library.

ALISE RESEARCH TAXONOMY TOPICS

school libraries; education programs/schools

AUTHOR KEYWORDS

causal research; community school; school libraries; library access; research-practice partnership

Effectiveness of Shared Mental Models on the Success of Multi-Institutional Collaboration to Deliver Online Learning Programs

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ABSTRACT

This poster focuses on employing the construct of shared mental models (SMMs) to measure the effectiveness of collaboration in two projects featuring multi-institutional effort to deliver emergent LIS learning programs. Specifically, various teams involved in developing RDMLA (Research Data Management Librarian Academy) and IPI (Interprofessional Informationist) programs were examined. RDMLA is an online training program for practicing librarians and other professionals who engage in data-intensive work. The IPI program is an IMLS-funded post Master's certificate program which aims to provide education and training to bridge the gap between traditional and emergent skills in health sciences librarians. Based on research work on SMMs and teamwork (e.g. Cannon-Bowers, Salas, & Converse, 1993; Marks, Mathieu & Zaccaro, 2001), a framework (Fig. 1) was developed to measure multiple types of mental models. Components of the SMMs will be extracted to identify the association between the degree of sharedness and the successful delivery of learning programs. Findings will benefit LIS educators in their effort of developing community-based collaborative learning programs.

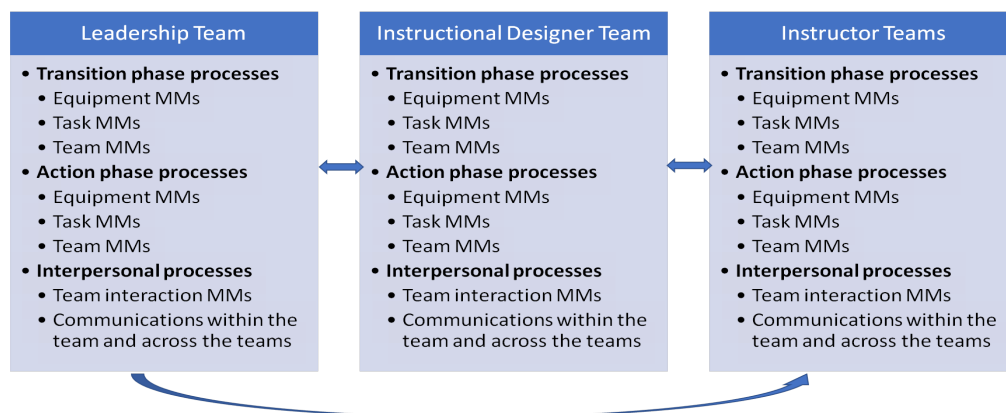


Figure 1. Framework for Measuring Shared Mental Models.

ALISE RESEARCH TAXONOMY TOPICS

computer-supported collaborative work; online learning

AUTHOR KEYWORDS

shared mental models; cross-institutional collaboration; teamwork; team effectiveness

The Interdisciplinarity of Scientific Research Data

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ABSTRACT

Technical advances have lowered some barriers to data sharing and reuse, but it is a socio-technical phenomenon and the impact of the ongoing evolution in scholarly communication practices has yet to be actively quantified. With the open science movement, research data citation for data sharing and reuse is becoming more common than before. Furthermore, there is need for a deeper and more nuanced understanding of the extent of interdisciplinarity of data citation when research data is shared and reused. The interdisciplinary collaboration is closely related to data reuse across disciplines because disciplines influence one another. Collaboration is one way and citation is another. Citation is commonly considered to be closely related to scientific impact because citation measures formal scholarly impact. This study examined the interdisciplinarity of scientific research data, especially how scientific research data are reused in bibliographies. The researcher measured the variety, balance and diversity to examine to what extent scientific research data is reused in other disciplines. This study found that the interdisciplinarity of scientific research data is existent although the prevalence of interdisciplinarity is diverse depending on scientific disciplines. The findings presented here contribute to the study of interdisciplinarity of scientific research data for data sharing and reuse.

ALISE RESEARCH TAXONOMY TOPICS

data curation; informetrics; scholarly communications

AUTHOR KEYWORDS

research data; data citation; data sharing; data reuse

Social Work and Public Librarianship: Partnering to Support Patrons in Crisis

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ABSTRACT

Public libraries grapple with supporting patrons experiencing crises on a daily basis. Patron crises related to mental health (Torrey, Esposito and Geller, 2009; Wahler et al., 2019), and substance use (Whaler et al., 2019) have increased over several decades with changes in policies related to deinstitutionalization, and recently, the U.S. opioid crisis. These changes have resulted in additional workplace challenges for librarians, turning some libraries into social service delivery hubs (Real and Bogel, 2019; Wahler et al., 2019).

Our study explores the results of workshops on mental health, boundary management, and resilience building for public library staff. The authors completed training events with a series of participants via 3 different workshops at a large, urban public library system in the United States. Participants received pre-tests to determine their knowledge and comfort with the topics, received the training, and then completed post-tests. These assessments allowed participants to reflect on the training and the extent to which they felt more comfortable addressing mental health crises and issues related to boundaries and resilience after completing the workshops.

The major implications of conducting these workshops relate to:

- Developing professional development training for public library staff on supporting patrons in crisis while also practicing resilience and health boundary management;
- Understanding how social work and library science can partner together effectively to improve education for library school students;
- Identifying ways in which public libraries can successfully implement simple practices to support the well-being of their staff

ALISE RESEARCH TAXONOMY TOPICS

Public libraries; Social justice; Specific populations

AUTHOR KEYWORDS

public librarianship; social work; patrons in crisis; mental health; resilience; training and professional development

Exploring Empathy in LIS Education and Practice

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ABSTRACT

Empathy is recognized as an important part of society and the global interconnectivity of the digital era. Empathy is more specifically a useful “soft skill” in providing customer service and problem-solving. Such soft skills are essential to librarianship, connect people and information, and increase patron satisfaction (Matteson et al., 2016; Saunders, 2019). Yet literature has little to say regarding the existence of empathy in library professionals. Research has turned toward empathy only in specific instantiations, such as understanding library anxiety in international students or experiences of visually impaired patrons. Empathy, ‘Effect of Service’ in LibQUAL+, is both the most important to customer satisfaction and most difficult aspect to measure (Roy et al., 2012). However, empathy has not been integrated into professional codes of conduct, praxis, or LIS instruction. How do we as information professionals practice empathy, and how can we use empathy to better solve problems and provide service in an ever more connected world? Moreover, should we be teaching empathy as a core skill in LIS education? Thus I propose to examine if empathy is a prevalent or valued skill to the practicing profession. Measuring a baseline of empathy in practicing librarians alongside extended interviews will shed light on the value of empathy in librarianship and LIS education.

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ALISE RESEARCH TAXONOMY TOPICS

education; curriculum, students; standards; reference transactions

AUTHOR KEYWORDS

empathy; emotional labor; customer service; user services; qualitative research; mixed methods

Exploring the Effectiveness of Adaptive Technologies to Improve the Quality of Online Library and Information Science Courses

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ABSTRACT

Adaptive Technologies and Quality Matters[®] Rubric standards have been created to mitigate the technological challenges for students taking online courses, to improve the overall quality of online courses, and to increase the effectiveness of student learning in online courses. This poster presents preliminary results of a two-year project that is testing the potential usefulness of these online teaching techniques.

The activities for this project include incorporating Adaptive Technologies and the Quality Matters[®] Rubric into an online Library and Information Science (LIS) course and measuring the impact of these changes to the online course through student focus groups, Technology Acceptance Model (TAM)-based surveys, and formative and summative assessments. The objective of this project is to measure the effectiveness of Adaptive Technologies and the Quality Matters[®] Rubric in improving the online educational experience of the students impacted.

This project addresses the following research questions:

1. When incorporating Adaptive Technologies into online courses, what is the perceived usefulness and ease of use for students interacting with these technologies?
2. When implementing the Quality Matters[®] standards into an online course, what is the perceived usefulness and ease of use for students interacting with a course site based on the Quality Matters[®] standards?
3. Do Adaptive Technologies and Quality Matters[®] standards, by removing technology barriers, assist students' overall outcomes in online courses?

The purpose of this study is two-fold, to test how well these tools improve online education and to develop a framework for incorporating Adaptive Technologies and Quality Matters[®] in other online LIS courses.

ALISE RESEARCH TAXONOMY TOPICS

education of information professionals; online learning; standards

AUTHOR KEYWORDS

adaptive technologies; Quality Matters; distance education

LIS Education in a Fully Online World: How to Encourage Students' Participation in Student Organizations?

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ABSTRACT

In today's interconnected world, fully online LIS programs provide students great flexibility to pursue a master's degree in library and information science while maintaining other work and family responsibilities. Even though these fully online students have the opportunities to initiate and/or join various student organizations such as ALA student chapters, it is challenging for students and faculty to manage and promote students' activities in these organizations because current student organizations follow a model established in colleges and universities with large physical presence on campus. However, successful student organizations can help fully online students create a sense of community and belonging. These student organizations can also foster students to build professional connections in library communities.

Recognizing the value of student organizations, this study seeks to explore what organizations and activities are offered to fully online students in ALA-accredited master's programs in Library and Information Studies. We explore the following research questions: 1) what kinds of student organizations and activities are available among students who take fully online LIS programs? 2) in what ways are these student organizations and activities carried out? 3) what are the enablers and challenges in running student organizations and activities? 4) how are the student organizations and activities addressing the challenges of responding to a diverse student population? 6) what role is expected of faculty in facilitating student activities and organizations? This exploratory study examines the website of each ALA-accredited master's program to identify information about student organizations. The findings of this study will have practical implications for LIS educators and students.

ALISE RESEARCH TAXONOMY TOPICS

students; continuing education; education programs/schools

AUTHOR KEYWORDS

LIS education; students' governance

Cultivating Creative Inquiry in Higher Education

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ABSTRACT

Incorporating media in our disciplines “entails a form of ‘critical framing’ that enables learners to take a theoretical distance from what they have learned, to account for its social and cultural location, and to critique and extend it” (Buckingham, 2007, p. 45). However, traditional teaching modes that prioritize print-based literacy continue to dominate (Rhodes & Robnolt, 2009) despite being restrictive and limiting access for diverse learners to engage in meaning making. Visual journaling transforms pedagogy by supporting critical and diverse ways of learning and expressing knowledge. Students are invited to process knowledge and generate new understandings in reflexive ways that move beyond the uniform experiences of traditional classrooms. Visual journaling as a strategy for inviting creative inquiry and learning may also facilitate the development of democratic classrooms that extend pathways for inclusion and equity. This poster reports on the preliminary results of an exploration of visual journaling as a teaching and learning strategy to cultivate creative inquiry in higher education. The authors prompted students to use multiple media to engage with, reflect on, and synthesize course materials.

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ALISE RESEARCH TAXONOMY TOPICS

curriculum; pedagogy; education; information literacy; information use; social justice; students; teaching faculty

AUTHOR KEYWORDS

creative inquiry; visual journaling; multimedia; transformative pedagogy; multiliteracies; inclusion; equity

Revealing the Disciplinary Landscape of Data Science Journals

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ABSTRACT

The discipline, field, and practice of data science emerged to its current prominence in the past several decades. New disciplines, fields, and practices often involve definitional and scope challenges. This seems to be the case with data science. The research presented in this poster is part of a broader investigation into the disciplinary or interdisciplinary characteristics of data science. This work-in-progress poster reports the results of analyses of data science journals in different subject areas to answer several questions including:

- What is the population of journals that focus on topics of data science?
- What disciplinary landscape of data science is revealed in the aims and scope statements of these journals?

The unit of analysis in this research is at the journal level. Both quantitative and qualitative approaches were used in the analysis of the aim and scope statements. The quantitative approach used computational methods (e.g., Part-of-Speech Tagging, Word Embedding) to identify keywords representing characteristics of the journal. The qualitative approach used conceptual content analysis to reveal different patterns in terms of research types and the scope of research of the journals.

Data science research and education are part of many library and information science degree programs. The results of this research have the following benefits:

- Researchers can understand disciplinary and research types published in the journals when selecting a venue for submitting papers.
- Educators and students can identify appropriate journal resources to support learning.
- Librarians can use the results to assess collection development decisions regarding data science journals.

ALISE RESEARCH TAXONOMY TOPICS

bibliometrics; data mining; abstracting

AUTHOR KEYWORDS

data science; disciplinary landscape; journal analysis; aim and scope

Transforming LIS Education by Understanding the Complex Decisions of Public Library Leaders

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ABSTRACT

Decisions made by librarians in formal leadership roles in public libraries can have a lasting impact on their organizations and communities. For instance, several public libraries across the nation have asked drag queens to host their story time programs. This practice has created controversy and placed library leaders into situations where they have to take the needs of many different stakeholders into account. Understanding how library leaders make decisions, with emphasis on their sensemaking strategies, will shed light on this important aspect of public library leaders' roles and transform LIS management education.

This poster will present the early stages of a research project exploring these questions:

- 1) When faced with a complex problem, how do public library leaders make decisions?;
- 2) What information and sensemaking strategies do public library leaders employ when making complex decisions?;
- 3) What kinds of problems do public library leaders consider to be complex dilemmas?;
- 4) What values do public library leaders espouse when making complex decisions? And, how do these values inform their decision-making?

Three approaches to data collection will be used: (1) interviews with public library leaders; (2) direct observation of practice; and (3) reviews of organizational policies and professional standards.

A goal of this project is to foster the inclusion of complex decision-making processes in LIS curricula through the development and dissemination of a decision-making framework. This project will LIS-specific, empirical findings that will help emerging leaders develop their own mental models for decision-making and improve LIS management and leadership education.

ALISE RESEARCH TAXONOMY TOPICS

information ethics; public libraries

AUTHOR KEYWORDS

decision-making; leadership; professional core values; professional ethics

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Health Justice Education in the Time of Coronavirus (COVID-19): A Curriculum Review and Recommendations

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ABSTRACT

Phase one of this study (Vardell & Charbonneau, 2020) sought to investigate the intersections of health and social justice in library and information science (LIS) curriculum. Course offerings from 60 ALA-Accredited LIS programs were extracted and comprised the study sample. Using a thematic content analysis, a total of 220 course descriptions were analyzed to assess the inclusion of health justice topics. Of the 220 courses identified using the health justice search terms, only eight LIS course descriptions closely integrated health and social justice issues. This poster will present four overarching thematic LIS course areas identified from the 212 courses that were not explicitly health justice related but nonetheless presented potential health justice connections: 1) multicultural and diverse populations, 2) health sciences information, 3) literacy concerns, and 4) social justice and libraries. These four thematic areas present conceptual pathways with the potential to further incorporate health justice aspects in LIS coursework. In phase two of the study, the focus of this work has expanded to include health justice issues emerging during the COVID-19 public health crisis. Examples of how LIS educators can make stronger connections in their courses between health justice issues during public health crises, such as the COVID-19 pandemic, will be provided. Additionally, the presenters are seeking feedback and examples from LIS educators to help shape the future of this work and timely line of inquiry. Overall, this research initiative helps to map the curricula and contributes the LIS educator viewpoint for advancing health justice conversations.

ALISE RESEARCH TAXONOMY TOPICS

curriculum; education; education programs/schools; social justice; students; teaching faculty

AUTHOR KEYWORDS

content analysis; curriculum review; health justice; LIS curriculum; LIS education; social justice

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Service Learning as a Tool for Student Growth, Community Action, and Information Research Inclusion for Diverse Older Adults

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ABSTRACT

The information society is also an aging society. Its members are diverse with complex needs and find themselves more interconnected than ever before. But despite these intersections, the needs of older people are often absent or lagging in information-related job advertisements, coursework, and scholarship. More conversations among scholars, practitioners, educators, students, community organizations, older adults, and others are needed in order to ensure that the LIS discipline is prepared to support successful aging for the world's growing and diverse elderly population. This poster explores the tentative roadmap of a Ph.D. student who is using a small grant as a catalyst for increasing inclusion of diverse older adults in LIS research, teaching, and community service. These steps include action research in partnership with a community-embedded aging services organization, outreach to LIS master's students, and dissemination of research findings to academic and community audiences. This poster is part of a larger, ongoing study entitled, "We Serve All Seniors: Creating Information Resources for Diverse Older Adults in Community Context" which is funded by an ALISE Community Conn@ct mini-grant.

ALISE RESEARCH TAXONOMY TOPICS

information needs; pedagogy; community engagement; social justice; sociology of information

AUTHOR KEYWORDS

action research; ALISE Community Conn@CT; community action; diverse older adults; service learning

Use of Technology and Perception of Technology Competencies Among Librarians

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ABSTRACT

All LIS practitioners use technologies in their daily work in a variety of ways, and the ability to use suitable technology skills to satisfy user needs is essential. This study will examine librarians' technology use at their work places, and their attitude toward the technology competencies that librarians and library staff need. The survey invitations will be emailed to Georgia Library Association (GLA) members through the GLA listserv. The participants will be asked about their current use of technology at work, level of confidence, and their opinions on technology competencies for librarians and library staff. The participants will also be asked about their perceptions of LIS education for technology competencies. Descriptive statistics will be used to analyze and describe the survey data by types of libraries and job titles.

ALISE RESEARCH TAXONOMY TOPICS

education; public libraries; academic libraries

AUTHOR KEYWORDS

technology; technology competencies; technology use

Adding to the Public Librarian's Toolbox: A Guide to Anticipate and Respond to Complex Information Needs

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ABSTRACT:

Public libraries must anticipate and address the information needs of the communities they serve. Some public libraries have foreseen complex information needs which require external expertise; consequently, they established partnerships with community organizations outside of their particular library system. We define “complex” needs as those that require multifaceted, precise responses (e.g., managing money, comparing forms of birth control, and locating online support communities). Additionally, we define “information need” as the patron’s desire to locate or obtain information which will satisfy a conscious or unconscious need (Westbrook, 2015).

Since public libraries’ mission includes serving all members of their community, it is imperative that public librarians have tools to help them anticipate and fulfill various information needs. Recent social and economic shifts have increased the need for community members to turn to public libraries for complex information. In this poster, we identify and describe patrons’ increasing information needs, informed by LIS literature and our experiences as librarians and information science scholars. We also include selected examples we referred to of how public libraries have anticipated and addressed complex needs. We describe a novel framework we designed to help public librarians anticipate and build the capacity to address complex information needs. We focus on three specific categories of complex information needs: health (e.g., diabetes symptoms), legal (e.g., processing a FEMA claim), and social services (e.g., understanding COVID-19 unemployment benefits). In the framework, we elucidate how public librarians can better anticipate and address complex information needs by first using Warner’s classification model to determine the degree of complexity, then we describe how to apply Popper’s three world theory to take specific steps to anticipate and respond to complex information needs. Applying both Warner’s classification model then Popper’s three world model provides a unique, creative way for more public libraries to anticipate and respond to complex information needs.

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ALISE RESEARCH TAXONOMY TOPICS

classification; information needs; public libraries; critical librarianship; social justice; sociology of information

AUTHOR KEYWORDS

anticipating information needs; fulfilling information needs; responding to information needs; health information needs; legal information needs; social services information needs; public library patrons information needs; public library

A Teen-Centered Approach to Design Library Services - A Case Study of a Rural Public Library

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ABSTRACT

To develop and sustain youth programs and services in public libraries, it is inevitably important to understand how teens perceive their libraries and how they would design their library services, programs, and spaces. Current research has mainly focused on teens' uses of libraries in urban and suburban communities with little attention to teens in rural areas. Meanwhile, makerspaces have gained popularity in libraries within the past decade. While an increasing number of studies show teens' interests in makerspaces, these studies tend to focus on active library users' perspectives on makerspaces. It is unclear how teens who do not usually go to libraries perceive makerspaces.

This paper reports a work-in-progress study that seeks to explore the opportunities, enablers, and barriers of library uses among teens in a rural area in the US, along with their perspectives on designing a makerspace in their local public library. This selected local library has had challenges in attracting teens to use the teens' space and other library services and consequently placed a hold on teen events.

With a goal to understand rural teens' perspectives on public libraries and makerspaces, this study employs two-phase data collection. In the first phase, teens between 13 to 18 years old will be recruited through the snowball sampling method to participate in an online survey. In the second phase, the research team will host three makerspace programs in the selected rural library. Additional participants will be recruited to participate in semi-structured interviews. The researchers will also conduct field observations during the makerspace programs.

Implications for the LIS research community, practitioners, and LIS education will also be discussed.

ALISE RESEARCH TAXONOMY TOPICS

public libraries; young adult services; community engagement

AUTHOR KEYWORDS

youth services; youth programs; public libraries; makerspaces; teen-centered approach; rural libraries

The Challenges and Opportunities of Interdisciplinary Research: When LIS Meets Genocide Studies

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ABSTRACT

As ALISE recognizes in this year's theme, the positioning of LIS as an increasingly interdisciplinary field represents both a challenge and an opportunity. This is true in my own research. The questions I ask are only apparent by stepping outside of the confines of LIS's usual concerns and yet those same questions can only be answered through the insights developed in LIS. This is the strength of interdisciplinary research.

In my poster, even as I acknowledge this opportunity, I also focus on two challenges I face. Sometimes, as with a discipline like genocide studies, perspectives from outside the field seem jarring and evoke negative reactions. This is true with my research. The second challenge is a chicken-and-egg problem: my work raises questions within genocide studies that few others have addressed. Even as the answers to these questions impact my study, they are outside the scope of my research.

To explore these opportunities and challenges as I have experienced them, I provide background on the key concepts I bring from each field, how they relate to one another, and the questions to which this convergence of concepts has given rise. I concentrate on the critiques of my research from within LIS, the problem of questions that need to be left unanswered, and how I have used each challenge to further my research. Finally, I use this poster to reflect on how interdisciplinarity affects LIS approaches to research and pedagogy.

ALISE RESEARCH TAXONOMY TOPICS

research methods; pedagogy; indexing; sociology of information

AUTHOR KEYWORDS

interdisciplinary research; genocide studies; document society; indexing

Community-Based Development of LGBTQ+ Health Information Resources

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ABSTRACT

In this research project, we investigate the information practices of lesbian, gay, bisexual, transgender, and queer (LGBTQ+) youth to understand how they attempt to meet their health information needs using online resources. LGBTQ+ youth identify the internet as a vital resource for finding relevant health information because, due to fear and stigma, many cannot turn to traditional resources such as healthcare providers or schools for comprehensive health information. This research supports efforts of our community partners to address the unique health needs of LGBTQ+ youth. In addition to understanding the contextual factors impacting the health information search experience for LGBTQ+ youth, this research encourages youth participants to envision the content and capabilities of their ideal health information resources. In online synchronous focus groups, we use participatory design approaches to engage participants in collaborative design of online health resources, based on their past experiences seeking health information. Primary findings include website topic areas, layout, features, and audiences. In addition, through individual interviews, we focus on barriers to health information seeking and prompt participants to think specifically within an online search context. This research will contribute an empirical understanding of LGBTQ+ youths' online health information practices as this population attempts to meet health information needs that often remain unmet due to systemic homophobia, transphobia and other factors limiting access. Results will directly inform our development of an LGBTQ+ inclusive web resource for our community partners and their youth advisory committees. By including LGBTQ+ youth in our community-based resource development process, we are enabling these participants to directly shape the content and functions of this forthcoming website.

ALISE RESEARCH TAXONOMY TOPICS

information needs; information seeking; specific populations

AUTHOR KEYWORDS

LGBTQ+ youth; health information; information practices

Identifying Health-Related Informatics Education and Partnerships in ALA-Accredited Programs and iSchools

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ABSTRACT

Health-related informatics (i.e. Bioinformatics, Clinical Informatics) has been underexplored within American Library Association (ALA)-accredited programs and iSchools regarding interdisciplinary relationship development in their educational offerings. The first part of this study explores ALA-accredited and iSchool programs' websites to discover what partnerships exist within their health-related informatics degrees and courses.

Of the ALA-accredited and/or North American iSchool programs, 69 offer health-related informatics education. Three hundred fifty-two total educational offerings exist, the most prevalent options are courses (45%) and Master's degrees (21%). The most common health-related informatics offerings are bioinformatics (126/352) and general health informatics (107/352). ALA/iSchools are collaborating in about 36% of these offerings (130/352), while most are solo offerings (213/352).

The second part of this study is underway and explores the nature of partnerships in the offerings found above. We are surveying faculty to determine the disciplines involved in these collaborations and who initiated them. We also ask which factors influence them such as funding, staffing, and alignments with mission, values, or existing competencies. We hope to better define how these partnerships originate so that other institutions seeking involvement within health-related informatics education will have ideas of where and how to create strategic relationships.

ALISE RESEARCH TAXONOMY TOPICS

education programs/schools; education; continuing education; informetrics, administration

AUTHOR KEYWORDS

health-related informatics; library and information science; ALA-accredited library programs; iSchools; partnerships

Producing Productive Public Library Programming for Older Adults: A Participatory Design Approach

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ABSTRACT

As the Baby Boomer generation, a user group that is widely diverse in terms of culture, interests, and occupations, continues to age, it follows that there is a corresponding need for more public library programs and services to accommodate them. Unfortunately, unlike with children's and young adult services that enjoy a long history of specialized research and education, there is little empirical research or education specific to older populations. (Further evidence of this can be seen in the ALISE research taxonomy which includes children's and young adult services but makes no mention of older adults.) This means that practicing librarians may not be sufficiently equipped to determine what programming and services would best meet their older patrons' needs. To deepen understanding as to how to best develop meaningful, targeted programming for older adults, this three-year qualitative study, funded by the Institute of Museum & Library Services, investigates the use of Participatory Design (PD) methods, specifically, those of Bonded Design (BD). BD is a PD methodology specifically developed to bring two disparate groups together in the shared experience of the design team to foster meaningful communication and interaction with the goal of designing more user-friendly products or services. In design teams consisting of librarians and older adults, facilitated by PD techniques such as brainstorming, prototyping, and consensus-building, both groups will engage in mutual learning by sharing expertise, in a collaborative process that encourages synergy through diversity. The poster will outline the start of the research process, including such concepts as ethics preparation and review and librarians-as-researchers.

ALISE RESEARCH TAXONOMY TOPICS

public libraries; information needs; specific populations

AUTHOR KEYWORDS

bonded design; BD; older adults; participatory design; PD

“Chinese Virus” as Anchor for Engaging with COVID-19 Information: Anchoring Bias Leading to Racism and Xenophobia

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ABSTRACT

Information dissemination from official sources coupled with adoption of message by the public during a pandemic crisis (COVID- 19) are essential components of collective action aimed at combating virus spread. During the onset of the COVID-19 crisis in the USA, President Donald Trump referred to the Coronavirus outbreak as a result of a “Chinese virus.” The president justified his choice of words given that the virus “originated in China.” Although indeed the virus was reported as originating in Wuhan, China, concerns about the use of the term and xenophobic/racist feelings emerged as a result. Considering that individuals are constantly engaging with information about the severe repercussion of the pandemic; social distancing, constant hand washing, disinfecting surfaces, economic consequences of rapid spread, increased death toll, and changes in our modus vivendi, for example, labeling the pandemic might result in anchoring bias. Anchoring bias is a consequence of random and at times uninformed outset (initial information) influencing perception of subsequent information. Therefore, when individuals attempt to adjust to new information, features of the anchor (initial information) to make judgements of new evidence persist. Thus, “Chinese virus” might inform attitudes towards new information presented on social media. In order to understand repercussions of labeling the pandemic, data is being collected via Tweet stream about COVID-19 to understand emotional content of tweets (emotional content analysis). Terms used to define criteria include “coronavirus,” “corona virus,” “covid-19,” “covid19,” and “Chinese,” “Chinese-virus.” Additionally, by using location-based tweets, scope was limited to tweets within the USA.

ALISE RESEARCH TAXONOMY TOPICS

information use; social media; data mining; big data; natural language processing; data visualization; social media

AUTHOR KEYWORDS

anchoring bias; social media mining; public preference; pandemic; text mining; sentiment analysis

Website Security in Public Libraries: The Case Study of Security Applications in Wisconsin Public Libraries

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ABSTRACT

Since the Internet came out, most of the public libraries have been provided their virtual website for users as their physical front desk and digital services have been penetrated to the public library due to the convenience of access. Therefore, adapted new technologies are essential to enhance digital services for their patrons, along with saving cost and operational efficiency. To acquire the goal, public libraries could develop their website by themselves or contract with third-party vendors who have built robust solutions to help to build digital services, such as cloud computing solutions. The use of digital services through the website has been provided quicker and more convenient services, but there are potential risks to lose data, such as patrons' information. Due to increasing the threat of data hacking, there is a consideration to protect website systems and information on the public library website. Many public libraries have a security policy and applied security features, but there are many vulnerable points in their websites due to saving cost, lack of security policy, awareness of security, or the size of libraries. Therefore, this study will examine some public libraries' websites in Wisconsin and provide a snapshot of security applications, such as website security settings and security policies. As a result, this poster will report on a pilot study to help us understand how public libraries apply website security for protecting their digital services and their current weakness and vulnerabilities.

ALISE RESEARCH TAXONOMY TOPICS

information security; public libraries; information system design

AUTHOR KEYWORDS

information security; website design; public libraries

A Content Analysis of Digital Reading Skills from the Educational Technology Perspective

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ABSTRACT

There has been much hand wringing about the benefits and drawbacks of reading online. A book is a book whether print or digital. Or is it? An ebook is defined as “a form of electronic text that contains key features of traditional print books . . .but may also contain digital enhancements that make the reading experience qualitatively different” (Zucker, 2009, p. 49). Rather than assume the medium does not change the message, many researchers assume the opposite, treating a print book as a baseline for study. Academic literacy theorists have posited a more nuanced exploration of digital texts. For them, “perspective changes how we define literacy, the skills we consider to be paramount to literacy acquisition, the environmental factors we deem necessary to support literacy development and how we assess literacy abilities” (Baker, 2010, p.1). This study explores how academic journals focused on technology and learning frame the digital reading conundrum. The Journal of Research on Technology in Education (ISTE) and Educational Technology Research and Development (AECT) were chosen for content analysis. Articles selected were analyzed with a focus on the following three areas: research topic, research methodologies and data sources in order to learn how educational technology journals studied the impact of digital reading on learning.

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Zucker, T. A., Moody, A. K., & McKenna, M. C. (2009). The effects of electronic books on pre-Kindergarten-to-grade 5 students' literacy and language outcomes: A research synthesis. *Journal of Educational Computing Research*, 40(1), 47–87.

ALISE RESEARCH TAXONOMY TOPICS

reading and reading practices; information use; pedagogy; children's services; school libraries; young adult services

AUTHOR KEYWORDS

digital reading; reading comprehension

Demands and Development Strategies for Support Services of Autonomous Learning at Chinese Universities

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ABSTRACT

In recent years, autonomous learning has become one of the most popular ways for Chinese university students to obtain new knowledge and skills, which requires more support services from their affiliated institutions. However, few previous studies combined investigation of the students' needs and learning support services.

Our study conducted online survey to analyze the status quo of Chinese students' autonomous learning and the much-needed support services from their schools. We sent out the survey in October 2019 and received 458 valid responses. All participants were undergraduate students from 195 universities/colleges in China.

The following information was collected: 1. School/Grade/Major of participant; 2. Autonomous learning time/goals/methods/main concerns of these students; 3. Existing support services, e.g., spaces, resources, counseling, procedures, activities; 4. The students' degree of satisfaction with the available support services.

Chinese students showed strong and diversified needs of support services to fulfill their autonomous learning tasks, which cannot be met by their schools. We proposed a development framework and some strategies for higher education institutions in China to launch more innovative learning support services.

ALISE RESEARCH TAXONOMY TOPICS

education programs/schools; universities; students; information needs

AUTHOR KEYWORDS

autonomous learning; college/university students; learning support services; China

Analysis of Public Perception of Multiple Community Issues through Social Media Mining during a Pandemic

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ABSTRACT

The COVID-19 pandemic affected almost every aspect of our lives. It rapidly changed the way we behave in our daily lives, including how we seek and access information. Social media has become pivotal for accessing information about the pandemic, though not all information available is reliable. Therefore, this study uses a social media mining approach to analyze the public's sentiment during COVID-19 pandemic through social media posts (e.g. Twitter). Social media mining is crucial for understanding information behavior of individuals in a time when collective action is essential. Data is being collected through tweets streaming using terms related to coronavirus ("coronavirus" and "covid19"), and limited to tweets within the USA. Additionally, analysis on the aggregated tweets to understand emotional content of tweets was conducted alongside visual content (memes) related to the pandemic, which were collected for content analysis. Text mining and sentiment analysis serve as an avenue for understanding implicit meaning in social media posts, thus furthering a more complete understanding of messages transmitted via social media related to COVID-19. The analysis will be correlated with other aspects, such as timeline and pertinent activities. Understanding the process for collecting social media data during a world crisis (pandemic), creates a context where social media data can be analyzed through different perspectives, thus leading to a more in-depth understanding of efforts at communication about COVID-19 (education strategies, preventive behaviors, etc.), and the public's response to the crisis.

ALISE RESEARCH TAXONOMY TOPICS

social media; data mining; big data; natural language processing; data visualization

AUTHOR KEYWORDS

social media mining; public preference; pandemic; text mining; sentiment analysis

When Virtual Goes Viral: Sustaining Excellence in Library Services in the COVID-19 Pandemic and Its Implications for LIS Education

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ABSTRACT

Amidst the coronavirus pandemic, academic libraries have altered their service models and are still gauging the impact of this global health emergency on the entirety of their operations. One of the salient questions to consider is: How do we prepare for a possible protracted siege against COVID-19 while staying connected with learners? More importantly, how do we, as a profession, sustain the level of service necessary to ensure long-term student success in increasingly virtual learning environments? This poster documents a multi-method study involving a number of academic libraries that have gone virtual in the provision of their major services. Phase I of the project entails content analysis of multiple community college and university library websites to identify measures currently in place to serve library constituencies without interruption. The findings indicate a variation in the degree of library online presence, particularly related to instructional content and social media updates. Phase II, an electronic survey of library leadership in the sample, identifies the challenges and successful practices that may influence how readily critical library services are accessible online. Finally, phase III explores how LIS education must be conceptually reimaged in response to a reality that calls for information professionals with a set of entirely new, versatile, community-oriented competencies. Those can only be fostered through persistent curricular enhancements in areas ranging from community needs analysis to disaster preparedness, project management, and asynchronous learning, among others.

ALISE RESEARCH TAXONOMY TOPICS

information needs; online learning; academic libraries

AUTHOR KEYWORDS

COVID-19; sustainability in library services

The Role of Librarians in Gray Zone Conflict

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ABSTRACT

This work-in-progress is a conceptual paper about the role that librarians can play in mitigating effects of gray zone conflict through information literacy education. Gray zone conflict is a form of warfare where conflict exists below the threshold of war and armed combat. Gray zone conflict is frequently enacted through information campaigns and can be seen as a form of information warfare. Gray zone conflict is warfighting at the level of narrative and belief – how political, economic and social reality and interests are created and negotiated through narratives.

The U.S. National Security Strategy of 2017 states that “America’s competitors weaponize information to attack the values and institutions that underpin free societies...They exploit marketing techniques to target individuals based upon their activities, interests, opinions, and values. They disseminate misinformation and propaganda.” (p. 34). The National Security Strategy promotes a concept that it calls “information statecraft” as central to securing the U.S. in the face of future conflict by aggressive actors.

Key tenets of information and media literacy can be employed to deconstruct the three elements that characterize gray zone conflict as described by Mazar (2015): “rising revisionist intent, a ...strategic gradualism, and unconventional tools.” The engagement of intentional information and media literacy strategies as a vehicle for information statecraft can strengthen the capacity of civil society to prevail against this unique form of conflict. Librarians, working with the most basic currency of the Information Age – people and information, can provide an essential public service in protecting our freedoms by enabling civil society to think critically, analytically and reflexively about the information that they receive, the sources from which it comes and the practical ends that it achieves in beliefs, thoughts and behaviors.

ALISE RESEARCH TAXONOMY TOPICS

information ethics; information security; information literacy; information use; political economy of the information society; sociology of information

AUTHOR KEYWORDS

gray zone conflict; information literacy; media literacy; U.S. national security; war; conflict

COVID-19-and College Teaching in China and USA

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ABSTRACT

The global outbreaks of the COVID-19 significantly changed higher education in China and the United States. Universities and colleges from the two countries had to move their face-to-face classes fully online, which posed many new and significant challenges to both faculty and students.

From late February 2020 (the beginning of the Chinese spring semester), all colleges and universities in China unprecedentedly moved their traditional face-to face-classes fully online. From Mid-March, the American schools had to move their face-to-face classes online.

Our study focuses on one MLIS program from the United States, one MLIS program, one liberal arts program and one sci-tech program from China. We collected data over the whole Spring Semesters of these American and Chinese programs to compare the teaching and learning behaviors before and during the outbreaks.

Specifically, we examined impacts of emerging technologies on LIS education and other academic programs. It will benefit the global higher education from the perspectives of Information, Technology, and Communications.

ALISE RESEARCH TAXONOMY TOPICS

education; online learning; pedagogy; students; teaching faculty

AUTHOR KEYWORDS

COVID-19; higher education; teaching; learning; emerging technologies; China; USA

Racism and Bias in Student Evaluations of Teaching

SIG Convener(s):

Equity and Social Justice (Nicole A. Cooke, University of South Carolina; Mónica Colón-Aguirre, East Carolina University; Amelia Gibson, University of North Carolina, Chapel Hill, USA)

Presenters:

Renate Chancellor (Catholic University of America), Michelle Kazmer (University of Florida), David Lankes (University of South Carolina), Bharat Mehra (University of Alabama)

ABSTRACT

Student evaluations of teaching (SET), also known as student course evaluations, are a generally accepted ways to evaluate performance of faculty members in higher education. These evaluations are tied to retention, compensation, promotion, and even hiring. However, there is a strong body of literature demonstrating that SET are highly flawed systems and that basing personnel decisions on them can lead to discriminatory employment practices. Some issues that arise with this reliance on student evaluations of teaching include the so-called reciprocity effect in which students tend to use course evaluations as a punitive action for receiving a lower grade. Other issues include the tendency to put total responsibility for the quality of the education on instructors and grade inflation. Research has also found that student evaluations of teaching are marred with sexist comments, they tend to judge racial minorities more harshly than whites, and they express more negative performance evaluations of faculty when diversity and inclusion topics are the focus of the courses being evaluated.

This panel will draw upon the expertise and personal narratives of a group of faculty members who will present their experiences, points of view, and musings regarding the topic of bias in student evaluations. The main goal of this panel is to highlight issues faculty face in LIS education while analyzing the role of SETs in terms of their utility and dangers. Panelist presentations will form a good starting point for ongoing conversations regarding appropriate teaching evaluation tools which are fairer and more objective in evaluating real teaching proficiency rather than lingering on the personal biases of the evaluators.

ALISE RESEARCH TAXONOMY TOPICS

students; education programs/schools; pedagogy; administration

AUTHOR KEYWORDS

student evaluations of teaching; bias; discrimination; library and information science education; faculty of color

Where do we Stand? Working Toward an ALISE Position Statement on Learning Analytics in Higher Education

SIG Convener(s):

Information Ethics (Kyle M. L. Jones, Indiana University-Indianapolis (IUPUI), USA)

Panelists:

Kyle M. L. Jones (Indiana University-Indianapolis (IUPUI), USA), John T. F. Burgess (University of Alabama, USA), Toni Samek (University of Alberta, Canada), Michelle Kazmer (Florida State University, USA)

ABSTRACT

Institutions are increasingly using learning analytics to mine and analyze data and information about students and faculty. Often, these tools are viewed positively; they serve as means by which to facilitate educational activities in bureaucratic and complex institutions and bring about improved learning outcomes. But, in the sociology of education tradition, researchers have neither considered educational technologies as neutral nor benign: they are representations of power and political artifacts. Critical data studies scholars promote a view that the data driving educational technology needs to be examined for, *inter alia*, issues of justice, fairness, autonomy, and reductionism. Learning analytics brings forth serious questions concerning surveillance, privacy rights, appropriateness of use, and how institutional policy accounts for such things.

The ALISE Information Ethics Special Interest Group proposes that now is the time for library and information science (LIS) faculty to seriously address and respond to the pressing issues learning analytics is raising by developing an advocacy statement. A position statement on learning analytics has utility beyond taking a stand on an important educational issue. It has the potential to provide a touchstone for faculty to evaluate and critique their institution's learning analytics practices. Statements of this kind create ethical clarity, establish priorities, identify and give voice to the interests of vulnerable parties, and spread shared values. For educators, the efficiency of a carefully crafted statement can also lead to teachable content that can serve as learning objectives in LIS courses. However, the greatest utility of all is ensuring that in carrying out our multifaceted duties we do not contribute to unethical learning analytics and educational data mining practices, and instead serve as models for those we educate. The intention with such a statement is not to enforce uniformity of behavior, but is instead to promote awareness, summarize emerging dilemmas, and recommend further action. While there is a limit to what can be accomplished in a conference session, the intent is to use this session as a catalyst to energize further discussion and research on the topic.

ALISE RESEARCH TAXONOMY TOPICS

information ethics; information policy; data mining

AUTHOR KEYWORDS

higher education; learning analytics; educational data mining; information ethics

The Intersection of Information Ethics and Policy: Challenges and Opportunities for LIS Educators

SIG Convener(s):

Information Policy SIG (Margaret Zimmerman, Florida State University, USA; Nicole Alemanne, Valdosta State University, USA; Jenna Kammer, University of Central Missouri, USA)

Presenters:

Lucy Santos Green (University of South Carolina, USA), Melissa Johnston (University of West Georgia, USA); A.J. Million (University of Michigan, USA), Lesley Farmer (California State University Long Beach, USA); Michele Villagran (San José State University, USA), Suliman Hawamdeh (University of North Texas, USA; Dian Walster (Wayne State University, USA)

ABSTRACT

The purpose of this session is to 1) present actual strategies and/or resources for addressing ethics and policy in LIS courses, and 2) engage the audience in discussions about the implications of ethics and policy in LIS instruction and research. The presentations in this peer-reviewed panel will present diverse perspectives on the nature of information ethics and policy, and the relationship between them. These presentations highlight the role of ethics in policy, including real world examples highly relevant to LIS education and research. They include:

- Lucy Santos Green and Melissa Johnston will present **Educating Future LIS Scholars and Professionals on Ethical Publishing Policy for Scholarly Research.**
- A.J. Million will present **Research Data Management and Street Level Bureaucracy.**
- Lesley Farmer will present **Taking Ethical Responsibility for Addressing Fake News.**
- Michele Villagran and Suliman Hawamdeh will present **Information Ethics from a Multicultural Perspective: Content Analysis of Library and Information Science Publications.**
- Dian Walster will present **Using Student Created Scenarios to Teach Professional Ethics.**

The panel will begin with a brief introduction on the topic (5 minutes), followed by five 15 minute presentations (75 minutes). Panelists will conclude the session with a discussion related to the implications for LIS instruction and research (10 minutes).

ALISE RESEARCH TAXONOMY TOPICS

information policy; information ethics; information literacy

AUTHOR KEYWORDS

information policy; information ethics; responsibility; publishing; information literacy; library instruction; data ethics

Transforming the Archival Classroom for a Connected Reality

SIG Convener(s):

Archival / Preservation Education (Sarah Buchanan, University of Missouri, USA)

Presenters:

Sarah A. Buchanan (University of Missouri, USA), Najim A. Babalola (University of Ibadan, Nigeria), Shobhana L. Chelliah (University of North Texas, USA), Adam Kriesberg (Simmons University, USA), Sarah Pratt (Simmons University, USA), Katherine M. Wisser (Simmons University, USA), Oksana L. Zavalina (University of North Texas, USA)

ABSTRACT

The Archival / Preservation Education SIG panel engages with interconnected external pressures and curricular goals in the archival classroom. Four moderated presentations focus on innovative classroom pedagogy, including modeling and visualizing collection data, the digital and physical interconnectedness of digitization activities in pre-professional training, and practical experience and deliverables with unique archival collections; presenters bring perspectives from three states and two countries. “Inclusive Collection Visualization and Arrangement” by Sarah Buchanan discusses the data practice of visualization as a creative response to archival arrangement and metrics for aggregating collection attributes. “Paradigm Shift in LIS Education from Digital Revolution to a Cyber-Physical System” by Najim Babalola examines how emerging and immersive information and communication technologies (ICT) such as digitization are changing service deliveries, with a view to preparing prospective professionals in Nigeria with knowledge and critical skills. “Closing Doors Opens Others: Exploring Pedagogical Opportunities through Temporary Custody of Records” by Katherine Wisser, Adam Kriesberg, and Sarah Pratt reviews how faculty, archives staff, and students across levels are processing and learning with the American Textile History Museum records, before eventual transfer to UMass Lowell. “Education to Support Language Data Archives and Preservation: Experiential Learning and Community Collaboration in the Interdisciplinary Graduate Course at University of North Texas” shares lessons learned in teaching a multi-modal, team-based, and experiential course with South Asian language materials and UNT Digital Collections.

ALISE RESEARCH TAXONOMY TOPICS

pedagogy; teaching faculty; archives; archival arrangement and description

AUTHOR KEYWORDS

archival education; language archives; processing; digitization; visualization; arrangement

Seeking Information Between and Beyond Binaries: How Queer Theory Can Inform LIS Theories

SIG Convener(s):

Gender Issues (Travis L. Wagner, University of South Carolina, United States of America)

Presenters:

Travis L. Wagner (University of South Carolina, United States of America), Vanessa Kitzie (University of South Carolina, United States of America), Diana Floegel (Rutgers, The State University of New Jersey, United States of America)

ABSTRACT

Queer theory offers a rich set of ideas, epistemologies, and methodological interventions whose incorporation into theories of information allows for growth, expansion, and potential alteration of library and information science scholarship, pedagogy, and research praxis. This presentation provides a primer for queer theory and applies tenets from its vast canon of thought to three ongoing LIS-based research projects. Each project and application engages with existing information science theories and illuminates how queer theory challenges, unsettles, and even reconstitutes the epistemological assumptions latent within them. The first project deploys queer phenomenology to understand how one's embodied queerness, or lack thereof, informs their perception of difference and identity within information seeking and creation. The second project examines how authenticity shapes insider/outsider dynamics within queer communities as it relates to information flow. This work presents realness, as developed by queer and trans people of color, as an alternative approach to envisioning these dynamics that leaves space to privilege individual subjectivities regarding information interactions. The third project uses notions of queer imaginaries and futurities to critique utopic conceptions of information systems in sociotechnical work. The presentation culminates in a discussion of what queering information science could and should do, and suggests ways in which queer theoretical perspectives may be applied to the field of library and information science more broadly.

ALISE RESEARCH TAXONOMY TOPICS

information seeking; information use; critical librarianship; social justice; sociology of information; political economy of the information society; social media; research methods

AUTHOR KEYWORDS

queer theory; queer phenomenology; queer authenticity; queer imaginaries; information worlds; embodied information; queer communities; social informatics

What Do Youth Service Librarians Need? Reassessing Goals and Curricula in the Context of Changing Information Needs and Behaviors of Youth

SIG Convener(s):

Youth Services SIG (Natalie Greene Taylor, University of South Florida, USA)
Youth Services SIG (Abigail L Phillips, University of Wisconsin-Milwaukee, USA)

Presenters:

Denise E. Agosto (Drexel University, USA) and June Abbas (University of Oklahoma, USA)
with contributions from Gabrielle Salib (Drexel University, USA), Rebekah Willett and Nathan
T. Wheeler (University of Wisconsin-Madison, USA) and Yuanyuan Feng (Carnegie Mellon
University, USA)

Sarah Barriage, Daniela DiGiacomo, and Spencer Greenhalgh (University of Kentucky, USA)
Kristie Escobar (Florida State University, USA)
Sarah A. Evans (University of North Texas, USA)
Mega Subramaniam (University of Maryland, USA)

ABSTRACT

The ALISE Youth Services Special Interest Group (SIG) presents a panel that explores what “youth services” means in the context of LIS education today, including novel additions to youth services curricula and how the changing needs of youth impact LIS education. The session begins with five research presentations, followed by an open discussion and Q&A. The five presentations incorporate the following topics: critical youth information needs, methods of incorporating design thinking and interdisciplinary research into MLIS youth services courses, an investigation of dialogue between librarians and youth, and the role of family and community in youth information behavior. The discussion prompted by this scholarship serves as an important contribution to the continued reform and evolution of youth services education.

ALISE RESEARCH TAXONOMY TOPICS

information needs; pedagogy; young adult services; sociology of information

AUTHOR KEYWORDS

design thinking; LGBTQI+ youth; interdisciplinary research; family studies

Transforming Learning: Challenges and Opportunities through School Libraries

SIG Convener(s):

School Library Media SIG (Maria Cahill, University of Kentucky, USA)
School Library Media SIG (Jennifer Luetkemeyer, Appalachian State University, USA)

Presenters:

Lesley S. J. Farmer (California State University Long Beach, USA), Pamela Harland (Plymouth State University, USA), Carl A. Harvey II (Longwood University, USA), Jen R. Spisak (Longwood University, USA), Karla B. Collins (Longwood University, USA), Audrey P. Church (Longwood University, USA), Jenna Spiering (University of South Carolina, USA), and Kate Lechtenberg (University of Iowa, USA)

ABSTRACT

Researchers will share papers exploring the SIG theme, Transforming Learning: Challenges and Opportunities through School Libraries. This interactive SIG session includes presentation of each research paper followed by open dialogue and Q&A regarding issues raised by the papers, implications for practice, and future areas for research. The following papers were selected for presentation: *Teachers' Perceptions of Students' News Literacy* (Lesley S. J. Farmer), *Lead Like a Librarian* (Pamela Harland), *Challenges and Opportunities: Transforming Learning through Implementation of the 2018 National School Library Standards for Learners, School Librarians, and School Libraries* (Carl A. Harvey II, Jen R. Spisak, Karla B. Collins, and Audrey P. Church), and *Discourses of Adolescence/ts and Collection Development* (Jenna Spiering and Kate Lechtenberg).

ALISE RESEARCH TAXONOMY TOPICS

information literacy; collections development; school libraries; education

AUTHOR KEYWORDS

school libraries; news literacy; leadership; standards implementation; collection development

Transforming LIS Education through Disability Inclusion

SIG Convener(s):

Disabilities in LIS (Keren Dali, University of Denver, United States of America)
Disabilities in LIS (Kim M. Thompson, University of South Carolina, United States of America)
Disabilities in LIS (Mirah J. Dow, Emporia State University, United States of America)

Presenters:

Susan Alman (San José State University, United States of America), Amelia Anderson (Old Dominion University, United States of America), Maddi Brenner (University of Wisconsin-Milwaukee, United States of America), Jennifer Campbell-Meier (Victoria University of Wellington, New Zealand), Debbie Faires (San José State University, United States of America), Anne Goulding (Victoria University of Wellington, New Zealand), Baheya S. Jaber (University of Alabama, United States of America), Bharat Mehra (University of Alabama, United States of America), Rebecca Muir (Charles Sturt University, Australia), Abigail L. Phillips (University of Wisconsin-Milwaukee, United States of America), Asim Qayyum (Charles Sturt University, Australia), Andrew J. M. Smith (Emporia State University, United States of America), Sarah Sutton (Emporia State University, United States of America), Melissa Wong (University of Illinois at Urbana-Champaign, United States of America)

ABSTRACT

Combining perspectives from Australia, Canada, New Zealand, and the US, this international panel will develop an honest dialog on disability inclusion in LIS education, drawing on empirical research, discursive analysis, and practical experience. All introductory talks will be followed by nuanced and carefully developed experiential activities prepared by each group of presenters and delivered at the two thematically arranged round tables. Jointly, seven interconnected presentations will address LIS pedagogy, educational policy, and educational content from the standpoint of disability inclusion and its potential to transform LIS education.

ALISE RESEARCH TAXONOMY TOPICS

curriculum; education; online learning; pedagogy; students; teaching faculty; social justice

AUTHOR KEYWORDS

access; disabilities; diversity; equity; inclusion; universal design

What About Librarianship in LIS Curricula?

SIG Convener(s):

Curriculum (Bill Edgar, Independent Information Professional, USA
& YooJin Ha, Clarion University, USA)

Presenters: LIS educators: Susan R. Rathbun-Grubb, Associate Professor, University of South Carolina, USA; YooJin Ha, Associate Professor, Clarion University of Pennsylvania, USA;
Information professionals: Bill Edgar, Independent Information Professional, USA; Jessica Jordan, Librarian at Slippery Rock University of Pennsylvania, USA

ABSTRACT

Over the past 20 years, Library and Information Science (LIS) programs have greatly diversified what they teach beyond librarianship to include many related, relevant topics, like information needs, human computer interaction, information policy, or knowledge management. As they have done so, many LIS programs have re-positioned themselves within universities as I-Schools with explicit teaching and research agendas addressing information broadly—and even dropping the “L” word from their names. However, this intellectual expansion raises important questions: How important is librarianship to the curricula of a School or Department of LIS or to an I School? How important is librarianship to graduates of these I-Schools or LIS Schools and Departments? To what degree is librarianship specific to the curricula of these Departments and Schools, providing them an educational niche distinct from those occupied by other information educators, such as Departments of Computer Science or Communication?

Possible answers to these questions are: First, librarianship provides something essential to people by addressing perennial limits people have as to intellectual content, e.g. by addressing people’s inability to consume all existing content by putting it into smaller, understandable content collections. Second, at least historically, most graduates in LIS or I-Schools have worked in libraries because they provide librarianship, a service essential to people, making librarianship very important to the graduates’ careers. Third, librarianship either is or can be a niche very specific or even unique to LIS Departments or I-Schools, providing them a great curricular opportunity. This SIG Session will address these questions and their proposed answers, spurring conversation and consideration of these important issues.

ALISE TAXONOMY RESEARCH TOPICS

accreditation; curriculum; education programs/schools

AUTHOR KEYWORDS

librarianship; libraries

Technical Services Education: Transformation and Advocacy

SIG Convener(s):

Technical Services Education (Karen Snow, Dominican University, USA; Heather Moulaison Sandy, University of Missouri, USA; Brian Dobreski, University of Tennessee, Knoxville, USA)

Presenters:

Hyerim Cho (University of Missouri, USA), Keren Dali (University of Denver, USA), Brian Dobreski, (University of Tennessee, Knoxville, USA), Karen Snow (Dominican University, USA)

ABSTRACT

Though change has been constant in information settings for some time now, at the start of a new decade we are presented with an opportunity to review transformations in technical services education and how they may prepare professionals to deal with this continuous change. Education must consider not only how best to understand and serve end-users of systems (in order to anticipate their needs), but also how best to advocate for best practices in addressing needs, and how to implement best practices both ethically and with professionalism. This panel presents views on current and emerging issues concerning preparation and continuing education for technical services careers.

ALISE RESEARCH TAXONOMY TOPICS

cataloging; classification; metadata; education; continuing education; information ethics

AUTHOR KEYWORDS

technical services; advocacy; transformation; diversity; cataloging education

Innovative Teaching Strategies and Conventional Approaches for Enhanced Learning in a Global Information Environment

SIG Convener(s):

Innovative Pedagogies SIG (Conveners Shari Lee, St. John's University, USA and Renate Chancellor, Catholic University of America, USA)

Presenters:

Panel 1: Denise Agosto (Drexel University, USA), Alexander Poole, (Drexel University, USA); **Panel 2:** Jenny Bossaller (University of Missouri, USA), Denice Adkins (University of Missouri, USA), Jamie Kleinsorge, (University of Missouri, USA); **Panel 3:** Africa Hands (East Carolina University, USA); Virginia Tucker (San José State University, USA); **Panel 4:** Susan Alman (San Jose State University, USA), Debbie Faires (San Jose State University, USA); **Panel 5:** Bharat Mehra (University of Alabama, USA).

ABSTRACT

This SIG session features five panels that will share innovative ideas on teaching and learning in LIS. Each panel will showcase a novel approaches to pedagogy that attendees will find useful. Agosto and Poole discuss *Community-Based Librarianship*, a post-baccalaureate certificate program being developed at Drexel University. In *Determining Community Needs with CARES*, Bossaller, Adkins, and Kleinsorge demonstrate how the CARES Engagement Network, a free online resource, can be used in the LIS curriculum. Hands and Tucker discuss *The 7-Slide Update: A Pedagogical Tool for Enriching Scholarly Communication*, a guided approach that focuses on key dimensions of doctoral work. Alman and Faires provide an overview of the social media apps in use by iSchool faculty at San Jose State University in *Extend Learning Beyond the Classroom with Social Media & Cloud-based Apps: Connecting, Communicating and Transforming LIS Education*. In *Social Justice Design and Implementation: Transforming LIS Education*. Mehra discusses his critical pedagogies and reflective practices as an instructor of three graduate courses taught in LIS at the University of Alabama. Presentations will be followed by an interactive question and answer session.

ALISE RESEARCH TAXONOMY TOPICS

continuing education; pedagogy; online learning; social justice; information literacy

AUTHOR KEYWORDS

continuing education; critical pedagogy; social media apps; scholarly communication; community engagement; GIS; social justice

Health Information-Seeking Behavior among U.S.-born, Korean-born, and Immigrant Korean Mothers

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ABSTRACT

Historically, mothers have been noted as active health information seekers, reflecting their roles as health managers and caregivers for their family members. Previous studies have focused on health information behavior among mothers in native populations or mothers of children with specific diagnoses. Using Wilson's (1997) information-seeking model, this study aimed to uncover patterns in information-seeking behavior among U.S.-born, Korean-born, and immigrant Korean mothers of children without a specific diagnosis.

Mixed research methods were used to investigate health information seeking behavioral differences, which may have been affected by individual and source characteristics. Three distinctive groups of mothers were studied: (a) American mothers born in and living in the U.S., (b) Korean mothers born in and living in Korea, and (c) Korean mothers born in Korea who immigrated to the U.S. Online surveys were completed by 851 mothers, and supplementary in-depth interviews with 24 mothers were conducted and analyzed.

Results revealed that there were noticeable differences among the three groups of mothers' source preferences and frequency of using each source. For instance, although the World Wide Web was the most frequently used health information source among all three groups of mothers, the U.S.-born mothers preferred doctors and nurses the most for their information needs. Furthermore, there were many similarities between immigrant Korean mothers living in the U.S. and Korean mothers who reside in Korea concerning health information-seeking behavior. Findings have potential contributions. First, to the practice, understanding the unique health information-seeking behavior of specific ethnicities and nationalities is important for information professionals who guide them to trustworthy sources. Second, in the future research, this research may be possibly expanded to examine other ethnicities' health information-seeking behavior in the U.S. and beyond other countries with large immigrant populations.

ALISE RESEARCH TAXONOMY TOPICS

information seeking; information use; specific populations; sociology of information; social media

AUTHOR KEYWORDS

health information; immigrants; mixed research methods; mothers

Censorship in Southern Mississippi Prisons

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ABSTRACT

A lack of access to information due to censorship still exists in today's society, one example being within our prison facilities. In 2018, Big House Books, a nonprofit organization that sends free books by request to prisoners in Mississippi correctional facilities, filed a lawsuit against the Mississippi Department of Corrections and the South Mississippi Correctional Institution located near Leakesville, Mississippi, when the institution started returning books to Big House Books and requesting they only send religious books instead. Later that same year, the Human Rights Defense Center, a nonprofit organization working for criminal justice reform, filed a suit on behalf of prisoners of the Forrest County Jail located in Hattiesburg, Mississippi, stating that all books and periodicals other than the Bible and occasionally other Christian publications, had been banned from the facility.

The current study is an in-depth case study of these two cases of censorship in southern Mississippi correctional facilities. Through a series of qualitative interviews with individuals connected to the cases, the study seeks to better understand the current phenomenon of censorship in prisons. Participants included prison employees, lawyers, and others involved in the two cases. Whether it be through services such as an actual library or information center provided by the prison facility, or the facility allowing books and other materials to be sent to inmates, incarcerated individuals have the right to access information. This study seeks to enlighten and act as a catalyst for change regarding censorship that is occurring within prisons today.

ALISE RESEARCH TAXONOMY TOPICS

censorship; information ethics; information needs; information rights; information seeking; information use; intellectual freedom; social justice

AUTHOR KEYWORDS

censorship; information access; intellectual freedom; prison libraries; social justice

“A Library is a Place Where You Can Lose Your Innocence Without Losing Your Virginity”: LGBTQAI+ Young Adults, Young Adult Literature, & Sexuality Health Information Needs

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ABSTRACT

Although sexual education programs are staples in the middle and high school curricula, many of these courses are abstinence-based which do not serve the needs of the teen demographic, let alone those who are LGBTQAI+. LGBTQAI+-focused literature can help fill the gaps in sexuality/sexual health information not addressed in public school curricula. Content analysis, both quantitative and qualitative divulges sexuality and sexual health issues examined in LGBTQAI+ marketed young adult literature. Individual interviews of LGBTQAI+ young adults add insight into whether the positive and negative aspects of the young adult literature, discovered through content analysis, affect them in their enjoyment of or willingness to read the book, whether the issues in the book are authentic and pertinent to their everyday life, and if the books fulfill an information need they have about sexuality or sexual health. The mixed methods complement each other as the content analysis explores what is contained in the texts while the interviews with LGBTQAI+ teens will determine the significance of those findings.

ALISE RESEARCH TAXONOMY TOPICS

information needs; information seeking; specific populations; young adult services; publishing; collections development

AUTHOR KEYWORDS

LGBTQ; young adults; reading; literature; equity; intersectionality; sexuality health

Introducing the Concept of Social Noise

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ABSTRACT

Social Noise is a term I have coined to describe the influence of personal and relational factors on social media information behavior. Knowing that others in the social network may observe posts, comments, and, likes, a user may interact differently with information than if they encountered it privately. This social pressure of observation by peers, colleagues, family, and other members of the social network may amplify, confuse, or distort information being communicated. Under the influence of Social Noise, a user may moderate their communication based on external cues regarding what behavior is acceptable or desirable, consciously or unconsciously attempting to present themselves in a more desirable way within the network.

The objective of this study is to investigate how observation by members of the social network influences social media users' information behavior. The Social Noise Model serves as the theoretical framework for this exploratory study. Using Shannon's Mathematical Model of Communication and Alfred Bandura's Social Cognitive Theory as inspiration, the Social Noise Model introduced here is designed to represent and characterize this new facet of human information behavior. The model illustrates information being received by the individual and filtered through personal and environmental factors prior to the observable information behavior.

Data analytics, including LDA, LSA, and clustering, were performed to identify the presence of Social Noise in a large dataset of Facebook posts and comments, but they could not provide information about users' motivations and thinking behind their observable information behavior. Twenty user observations and semi-structured interviews provided insight into how Social Noise influenced the way information was received, understood, and acted upon on Facebook.

Four key constructs of Social Noise were identified, and sub-codes were assigned within each construct as patterns emerged, providing insight into the different facets of Social Noise. Additionally, in most instances more than one of the four constructs were present, layering their influence on the information behavior. Based on these findings, social media users are not always interacting with information based on true personal beliefs or desires; instead, concerns surrounding their personal image, relationships with others, core beliefs, and online conflict are influencing their observable information behavior. The results of this study provide a basis to further develop the Social Noise Model. Qualitative data provides insight into the thinking and motivations behind social media users' observable information behavior, specifically in the areas of Cultural Agency, Relationship Management, Image Curation, and Conflict Engagement.

ALISE RESEARCH TAXONOMY TOPICS

information use; social media; sociology of information

AUTHOR KEYWORDS

human information behavior; social media; information theory

An Ethnographic Study of Romanian Vernacular Museums as Spaces of Knowledge-Making and their Institutional Legitimation

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ABSTRACT

This poster presents the findings of an ethnographic study investigating vernacular museums as interactive spaces of embodied knowledge-making for museum makers and visitors at personal levels; and their legitimation through cultural programs and policies at institutional levels. The research approach incorporated autoethnography, collecting data from in-person visits to four vernacular museums. Visits were audio-recorded and photographs captured the researcher's notable moments of self-reflexivity. Visitor impressions from interviews and guestbook comments were also analyzed, as were documents produced by and related to the national-level cultural program that worked to legitimate the 24 vernacular museums that are a part of this study.

Findings suggest that makers present their museums as conceptual journeys that foreground how each maker's idiosyncratic knowledge world entwines with the objects arranged in museum spaces. Museum makers' distinctive perspectives on the past were often a response to perceived problems in the present. Visitors recognized vernacular museums as both contiguous-with-yet-distinct-from institutional museum experiences because of the person-to-person connections they made with museum makers. Vernacular museums are a distinctive type of knowledge institution because of how they foreground personal interpretations of the past that contrast with those found in institutional museums. Museum experts cultivated vernacular museums by adapting and improvising around common museum practices. Vernacular museums are hybrid institutions that insert personal, local and individual perspectives on the past as a complement to and commentary on official institutional representations of heritage in ways that exemplify the participatory and visitor-focused tenets of new museology.

ALISE RESEARCH TAXONOMY TOPICS

museums

AUTHOR KEYWORDS

vernacular museums; knowledge-making; institutional legitimation; Romania; auto-ethnography; embodiment; museum visitor studies; cultural heritage

Factors Influencing Professional Identity Development and Negotiation of Public Librarians in Aotearoa New Zealand

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ABSTRACT

Professional and social change has called into question the professional identity of the librarian. Professional identity is the product of the impact the organizational and/or professional life has had on one's understanding of self within its context (Whyte, 1956/2002), influencing discourse and behaviour (Sundin & Hedman, 2009). The influence of professional identity on perception and behaviour underscores the importance of the co-constructed relationship between librarian and those served. Thus, professional identity is key in discussions concerning the librarian in a 21st century society and beyond. This research explores the professional identity of public librarians in New Zealand.

This research adopted a mixed methods approach. From the literature review, a model was developed detailing this identity development process (Pierson et al., 2019). In Phase 1, a questionnaire was designed operationalizing elements of the conceptual model and purposeful selection of interview participants based on responses to open-ended questions. In Phase 2, semi-structured interviews were conducted with 40 participants, allowing participants to elaborate on responses and reflect on their professional identities.

Results uncovered a novel methodological approach combining elicitation and analysis of a metaphorical approach and the critical incident technique (Pierson et al., 2020). Critical incidents initiate an identity negotiation process, first by provoking an affective response, leading to discovery of an aspect of the identity and/or a growth moment, prompting individualised identity development. The outcome either affirms or undermines identity perception. This process may be repeated over time for the same incident. Differences of perceived separation between pre-existing and professional identities are also outlined. Five relational states of librarian professional identity are described. Finally, respondents often detailed identity perceptions through three moderators: meaning ascribed to profession; manifest profession, e.g., association bodies; and organisational/institutional context. These moderators play a key role in the wider librarian professional identity negotiation process, in which the critical incident negotiation process is embedded. Finally, this research offers nine theoretical propositions of librarian professional identity, its negotiations, and relational states.

ALISE RESEARCH TAXONOMY TOPICS

research methods; public libraries; sociology of information

AUTHOR KEYWORDS

professional identity; public librarians; critical incidents; identity negotiations; LIS theory

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Using Social Media Tools for Collaborative Learning: A Mixed-Method Investigation on Academic Group Work by iSchool Students around the World

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ABSTRACT

Collaborative learning helps university students improve their academic achievement, learning persistence and attitudes (Springer et al., 1999). Social media were found to have positive effects on collaborative learning by encouraging positive interactions online (Al-Rahmi et al., 2014; Thalluri & Penman, 2015). This mixed-method dissertation research investigates how social media tools help to facilitate collaborative learning activities of iSchools students around the world. It included an online survey (Phase I) with over 300 iSchool students from 26 iSchools in 9 countries/regions, followed by 31 in-depth interviews (Phase II). The focal areas of the investigation are: 1) the factors influencing iSchools students' selection of social media tools; 2) the needed features and functions of social media for collaborative learning activities; 3) collaboration and communication strategies of iSchools students; and 4) the impacts of design characteristics, usability, and UX aspects of the social media tools on iSchools students' collaborative learning. The preliminary analysis results revealed that both effective social media functions and students' high proficiency of using social media tools were vital for a successful collaboration, however it was unlikely that both were present to achieve successful collaborative learning.

This dissertation research fills the gap of the research studies on collaborative learning using social media tools and usability requirements associated with using social media for learning purposes. In the long run, the study results provide evidence for improving the design of group assignments and team-based projects for collaborative learning in iSchools and beyond.

ALISE RESEARCH TAXONOMY TOPICS

social computing; user interfaces; scholarly communications; education; students

AUTHOR KEYWORDS

social media; collaborative learning; iSchool; user experience

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Generation Examination: A Phenomenological Study of Generation X Women and Mobile Games

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ABSTRACT

This phenomenological study explores the experience of Generation X women who play casual video games on mobile devices (e. g., smartphones and tablets), and draws connections to learning, particularly in the areas of New Literacies, multiliteracies, and digital literacy. A qualitative methodology was implemented to explore and document the experiences of five Generation X women with casual video games and mobile gaming. Interpretive phenomenological analysis (IPA) is used to analyze data gathered from in-depth, semi-structured interviews and photographic documentation of gameplay in situ. The theoretical framework that guided this study was formed from the first five of 36 Learning Principles developed by James Paul Gee in his seminal work *What Video Games Have to Teach Us About Learning and Literacy* (2007). Results of the study will contribute to our understanding of video gaming using mobile technology, and will explore connections to learning, literacy, and leisure activities in an unexamined demographic group. This study extends Gee's original work, contributes to an ongoing investigation within Library and Information Science of how people are using new technologies, and documents how casual games are a mechanism for learning and literacy for a large segment of American society. Finally, the study addresses a gap in the existing scholarly literature and adds to our knowledge of an underrepresented demographic and their use of emerging technologies.

ALISE RESEARCH TAXONOMY TOPICS

human-computer interaction & design; information practices; specific populations; sociocultural perspectives; research methods

AUTHOR KEYWORDS

video games; literacy; digital literacy; The New Literacies Studies; learning; mobile technology

From Here To: Everyday Wayfinding in the Age of Google Maps

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ABSTRACT

Today, asking for directions is often associated with “asking” a mobile mapping application like Google Maps. Google Maps is one of the most popular applications for mobile devices with over 1 billion users per month. What does everyday wayfinding look like in the age of digital mapping and locative media? My doctoral research is a creative and critical look at the everyday information seeking and sense-making practices of urban wayfinding within conditions of mobile mapping platforms. I approach this line of inquiry using exploratory arts-based research methods, specifically spontaneous drawing and performance. In this capacity, I walked the streets of four cities, asking passers-by for directions, requesting the passerby draw out their recommended route using the paper and pen I provided. I selected Toronto, New York, Amsterdam, and London as my urban contexts based on their different topographies and English-language proficiencies. The directions I asked for were to and from preselected sites such as shopping areas, transit hubs, civic squares, local parks, and public libraries. In total, I engaged in 220 directional encounters (55 per city) resulting in 220 hand-drawn route maps, with corresponding fieldnotes and selected interviews. I analyzed my data based on Visual Grounded Theory, an iterative analytical process that works across the different data types and connects to the data’s social modalities.

The mobile digital map was often used to “double-check” spoken directions, to “show” me the way, or to determine the “best route.” Wayfinding through the city was also made legible through the city’s physical forms and infrastructures such as the tramlines and roadways, as well as qualitative descriptions and features of different locations. In addition, these encounters revealed how embodied information practices are presented and represented when describing how to get from A to B. Findings show the complexity of everyday wayfinding, negotiated through the tacit and material forms of technological interventions, urban configurations, and information affects. My research provides methodological insight into arts-based methods in information studies, situating the drawing event at the thresholds of information spaces and civic sites. My analysis and findings result in an empirically-informed theoretical framework by which to critically approach the information practice of urban wayfinding. This framework can be further applied to investigate the spatial and temporal values Google Map’s promotes in relation to the everyday information practices of street-level navigation.

ALISE RESEARCH TAXONOMY TOPICS

research methods; mobile systems; ubiquitous computing; information seeking; information use; information literacy; political economy of the information society

AUTHOR KEYWORDS

wayfinding; everyday information practice; sense-making; arts-based research; Google Maps; mobile maps; Visual Grounded Theory; the city

The Collaborative Commons: Collaboration and Leadership in the Academic Library Learning Commons

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ABSTRACT

Focusing on the academic library Learning Commons as an inter-organizational partnership, this study examines the role of collaboration and leadership among departments providing services in these spaces. The research utilizes a combination of group and individual interviews with librarians and service partners to explore the advantages, challenges, and opportunities of this working arrangement from the perspective of those involved in leading and providing these services. The results of this study include recommendations for deepening collaboration among Learning Commons partners and supporting the work of leadership within the Commons.

ALISE RESEARCH TAXONOMY TOPICS

academic libraries

AUTHOR KEYWORDS

collaboration; leadership; partners; teaching and learning

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Modeling Deception for Identifying and Protecting against Advanced Email Phishing

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ABSTRACT

Cheating, beguiling, and misleading information exist all around us; understanding deception and its consequences is crucial in our information environment. This study investigates deception in phishing emails that successfully bypassed Microsoft 365 filtering system. We devised a model that explains why some people are deceived and how the target individuals and organizations can understand the motivation behind deception and how to prevent or counter attacks. The theoretical framework used in this study was Anderson's Functional Ontology Construction (FOC). The methodology of the study involves quantitative and qualitative descriptive design, where the data source for this study is the phishing emails archived from an educational organization. We looked for term frequency-inverse document frequency (Tf-idf) and the distribution of words over documents (topic modeling) and found the subjects of phishing emails that targeted educational organizations are related to banks, jobs, and technologies. Also, our analysis shows the phishing emails in the dataset come under six categories; reward, urgency, curiosity, fear, job, and entertainment. Results indicate that staff and students were primarily targeted, and a list of the most used verbs for deception was compiled. We uncovered the stimuli being used by scammers and types of reinforcements used to misinform the target to ensure successful trapping via phishing emails. We identified how scammers pick their targets and how they tailor and systematically orchestrate individual attack on targets. The limitations of this study pertain to the sample size and the collection method. Future work will focus on implementing the derived model into building a software that can perform deception identification, target alerting and protection against advanced email phishing.

ALISE RESEARCH TAXONOMY TOPICS

information security; data visualization; ontologies; sociology of information

AUTHOR KEYWORDS

information security; deception; phishing emails; functional ontology construction; reinforcement

The Information Behavior of Adult Independent Game Designers

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ABSTRACT

Changes in technology and consumer buying habits created a niche for independent games. Independent game designers have created both informal and formal groups for information seeking, information sharing, and information creation. One popular activity in the game design community is the game jam, a playful activity where small groups create prototype games within a deadline. Relatively little is known about independent designers as a new group of information users. Using the Radical Change Theory as a lens, this case study sought to better understand the information behavior of adults participating in an independent design community.

The research included a case study of beginners, hobbyists, and professional game designers by examining a gender and racially diverse selection of participants in the Portland Independent Game Squad (PIG Squad), a game design organization in Portland, Oregon. Narrative data was collected through individual semi-structured interviews of ten intentionally selected participants and an observation at a game jam.

Independent game designers who participated in this study were highly collaborative in information seeking and used play as part of their informal learning system. While this study focused on adult participants, there are implications for the organized learning experiences of youth and children of all genders. The game design process includes experimentation, playtesting, and incorporating feedback, which are powerful skills that can be generalized to other subjects.

ALISE RESEARCH TAXONOMY TOPICS

information seeking; information use; specific populations

AUTHOR KEYWORDS

Radical Change Theory; indie game designers; independent game designers; game jams; women in game design; game design; information behavior

A Comprehensive Scientometric Evaluation of the Field of Information Literacy Using Hybrid Bibliometric and Full-Text Lexical Analysis Methods

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ABSTRACT

In scientometric studies, hybrid approaches (i.e., the combination of traditional bibliometric techniques and lexical analysis methods) are used to investigate fields of research. With the increasing availability of full-text documents in machine-readable formats, advanced techniques (e.g., natural language processing [NLP]) are becoming common practice. Numerous bibliometric analyses have been conducted in the field of information literacy (IL). However, the majority of these investigations focus on citation metadata, while some incorporate lexical analyses of titles and abstracts.

The purpose of this dissertation work is to contribute to existing scientometrics knowledge of the IL field using novel and advanced hybrid methods. The primary goal is to examine IL holistically, using both bibliometric techniques and full-text lexical analyses. The study aims to answer the following research questions: 1) What are the most important historical publications in the IL field?; 2) What are the intellectual and collaborative structural configurations of the IL field?; 3) To what extent are the structural configurations enhanced by lexical analysis?; and 4) How has the field of IL evolved over time with respect to seminal concepts and vocabulary?

This poster presents findings from preliminary analyses. Citation metadata and full-text documents were collected from Web of Science (WoS), Scopus, and Google Scholar. The methods used include reference publication year spectroscopy (RPYS) to establish the historical roots of the IL literature, co-word analysis to map the intellectual structure of the IL field, and co-authorship analysis to analyze the collaboration networks of IL researchers.

ALISE RESEARCH TAXONOMY TOPICS

bibliometrics; informetrics; information literacy

AUTHOR KEYWORDS

scientometrics; citation network analysis; lexical analysis; reference publication year spectroscopy; co-word analysis; co-authorship analysis

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“Take the Trouble to Compile a Whole New World:” The Role of Event-Based Participatory Projects in Institutional Archives

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ABSTRACT

In 1970, Howard Zinn gave an address to the Society of American Archivists (SAA) and called upon the archival profession to discard pretensions of neutrality and “take the trouble to compile a whole new world of documentary material, about the lives, desires, needs, of ordinary people” (Zinn 1977, 25). This marked a turning point and highlighted the movement to push the archival profession away from protecting the status quo and towards an endeavor for a more democratic and pluralized archival record in which the records of ordinary people are as valued as those of powerful groups and individuals. This dissertation, which is at the data collection and analysis stage, is largely an exploration of one type of such effort: participatory archive collection day events. This study examines how ordinary people and their communities connect to archival records and to archival institutions. The communities represented in these archives are varied and their members are often referred to as “ordinary people” in the literature on movements to pluralize archival records.

Through a combination of primary source data analysis and ethnographic field data collection and analysis, this project will investigate the ties between archival institutions, communities, records, and memory in participatory archive initiatives. Using Bastian’s (2003) community of records framework, I aim to examine how communities of ordinary people in archival institutions use event-based mediated participatory archive projects to create meaning, memory, and relationships based on personal and community records.

ALISE RESEARCH TAXONOMY TOPICS

archives; community engagement; specific populations; social justice

AUTHOR KEYWORDS

digital archives; community-based archives; participatory archive initiatives; communities of records; digital cultural heritage

Searching for Information to Help at a Distance in Disaster Response: A Case Study of "Tutteli to Japan"

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ABSTRACT

"Tutteli to Japan" (TTJ) refers to Japanese mothers living in Finland who volunteered in organizing a private relief effort to deliver bulks of baby formula from Finland to Japan during the 2011 Great Tohoku Earthquake and Tsunami disasters. Unlike commonly seen in citizen response to disasters, TTJ did not start as an extension of pre-existing social group of mothers or an informal community group of professionals under the name of TTJ. Rather, it emerged from individual responses on the Internet expressing their compassions and aspirations to do something for the disaster victims; some were on Twitter, some were on their blogs. As the devastation escalated, so did the people's eagerness to do something about the inadequate distribution of resources, and they began to address the breastfeeding mothers in Japan who only had access to powder-based baby formula. Knowing the issue left untouched by government or aid agencies, these concerned individuals, as novice learners of international aid work without a chain of command, continued seeking and sharing information in order to deliver the liquid baby formula regardless of informational, operational, and situational uncertainties surrounding them. Ultimately, these volunteers succeeded to ship six times, a total of 12,000 cartons of formula, directly delivered and distributed in twelve different locations in Japan within forty days. Drawing on a dataset containing unstructured social media data, interviews and documentation, this single-case study traces how ordinary citizens interacting online develop the idea for delivery of baby formula and how likeminded strangers come together online and mobilize resources for humanitarian logistics and distributions in both Finland and Japan. This study aims to describe how such ordinary people's information interactions shape spontaneous collaboration in disaster response. My findings suggest that independent public participation and collaborative efforts for disaster response perform as sources of tensions and various kinds of vagueness, but these are the functions that spontaneous volunteers can offer resourcefully. I argue that the TTJ illustrates the power of ordinary people embracing uncertainty and acting on information processed through humane-driven technology use, vague language and uncertain sources of information. This condition of shared uncertainty, a new concept presented in this dissertation encompasses our understanding of independent public participation and collaboration and offers an interdisciplinary bridge between research in information behavior, computer-supported cooperative work, crisis informatics and disaster studies.

ALISE RESEARCH TAXONOMY TOPICS

computer-supported collaborative work; information needs; information seeking; information use; community engagement

AUTHOR KEYWORDS

searching as learning; self-organizing; citizen participation and engagement; crisis informatics

Author Index

Author	Page(s)
Abbas, June	398
Adams, Tempestt	372
Adkins, Denice	342, 403
Aghrazi, Maedeh	385, 389
Agosto, Denise	398, 403
Ahlin, Emily	114
Albright, Kendra	349
Alemanne, Nicole	395
Alexander, Laurie	294
Alkhaledi, Maram	230
Alkhaledi, Reem	230
Alman, Susan	400, 403
Almoqbil, Abdullah	417
Alshemaimri, Bader	417
Anderson, Amelia M.	400
Anderson, Rich	417
Aristeguieta-Trillos, Simon	371, 380
Assefa, Shimelis	349
Babalola, Najim A.	396
Bajjaly, Stephen	339
Barriage, Sarah	356, 398
Bateman, Micah	344
Benedicta, Michelle	413
Berger, Claudia	288
Bernier, Anthony	340
Bettine, Aiden	344
Black, Kimberly	391
Bossaller, Jenny	342, 347, 403
Brenner, Maddi	400
Bright, Kawanna	55, 347
Brody, Stacy	379
Buchanan, Sarah A.	396
Burek Pierce, Jennifer	344
Burgess, John	331, 394
Burke, Mary	159
Burke, Susan K.	89, 342
Burress, Rene	203
Burton, Matt	149
Bushman, Bobbie	97
Cahill, Maria	399
Caidi, Nadia	349
Campbell-Meier, Jennifer	28, 301, 400

Author	Page(s)
Chancellor, Renate	393, 403
Charbonneau, Deborah	350, 376
Chelliah, Shobhana L.	396
Cho, Hyerim	402
Choi, Yunseon	359
Church, Audrey	399
Collins, Karla	399
Colón-Aguirre, Mónica	55, 347, 393
Cooke, Nicole A.	393
Costello, Laura	264
D'Arpa, Christine	89, 342
Dali, Keren	400, 402
Davis, Jewel	372
Davis, Rebecca	340
Delmonaco, Daniel	382
Deng, Liya	390
Dickey, Timothy	140
DiGiacomo, Daniela	356, 398
Dobreski, Brian	402
Dow, Mirah J.	97, 400
Edgar, Bill	401
Elmborg, Jim	346
Ely, Eric	357
Escobar, Kristie	398, 406
Evans, Sarah	398
Faires, Debbie	400, 403
Farmer, Lesley	395, 399
Fay, Brendan	41
Feng, Yuanyuan	398
Floegel, Diana	397
Floyd, Rebecca	89, 358
Freeburg, Darin	80
Gao, Yijun	388, 392
Gibson, Amelia	393
Gomez, Denise	248
Goodall, Jennifer	348
Goulding, Anne	28, 166, 301, 400
Greene Taylor, Natalie	398
Greenhalgh, Spencer	398
Griffin, Tina	383
Gross, Melissa	13, 21
Gunaydin, Fatih	385, 389
Gunn, Chelsea	149
Ha, YooJin	371, 380, 401

Author	Page(s)
Haimson, Oliver	382
Hands, Africa	340, 403
Harding, Alison	110, 362
Harland, Pamela	399
Hartel, Jenna	351
Harvey II, Carl A.	399
Hash, Peaches	372
Hawamdeh, Suliman	230, 395
Hicks, Deborah	374
Higgins, April	220
Hirschy, Jeff	364
Hong, Jun	392
Hong, Lingzi	373
Hu, Zhan	363, 366
Huse, Laura-Kate	385, 389
Hussey, Lisa	350
Iyer, Hemalata	349
Jaber, Baheya S.	400
Janicke Hinchliffe, Lisa	184
Jeng, Ling Hwey	354
Johnston, Melissa	395
Jones, Faye R.	248
Jones, Kyle	184, 362, 394
Jordan, Jessica	401
Julien, Heidi	13, 21, 110
Kammer, Jenna	203, 395
Karch, Marziah	418
Khan, Hammad Rauf	317
Kim, GoUn	326
Kitzie, Vanessa	397
Kleinsorge, Jamie	403
Klimaszewski, Cheryl	408
Kriesberg, Adam	396
LaFleur, LeRoy	415
Latham, Don	13, 21
Latham, Kiersten	351
Lechtenberg, Kate	399
Lee, Hanseul Stephanie	404
Lee, Shari	403
Lee, Tae Hee	386
Lenstra, Noah	89, 342, 350
Leonarczyk, Zoe	248
Li, Guanzheng	166
Li, Xiaofeng	356, 371, 380

Author	Page(s)
Lu, Wenqing	411
Luetkemeyer, Jennifer	372, 399
Lund, Brady	41
Ma, Jinxuan	361
Ma, Rongqian	238
Marcu, Gabriela	382
Mardis, Marcia A.	248
Marksbury, Nancy	220
Mattern, Eleanor	149
Matteucci, Kristen	379
Mattock, Lindsay	343, 344
Matusiak, Krystyna	347
McCaughey, Martha	372
McLeod, Patrick	417
Mehra, Bharat	342, 346, 393, 400, 403
Méndez, Alejandra	211
Merle, Patrick	385, 389
Million, A.J.	395
Moen, William	373
Montague, Kaitlin	264, 379
Moulaison Sandy, Heather	1, 402
Muhamad, Jessica Wendorf	385, 389
Muhamad, Juan Sebastian	385, 389
Muir, Rebecca	400
Murillo, Angela	370
Nagy, Samantha	248
Ndumu, Ana	274
Nesset, Valerie	281, 384
Noone, Rebecca	414
Nord, Martin	381
Ogden, Lydia	368
O'Connor, Brian	417
Park, Hyoungjoo	367
Peisachovich, Eva	69
Perryman, Carol	354
Phillips, Abigail	398, 400
Pickett, Scott M.	248
Pierson, Cameron	28, 409
Pollock, Danielle	340
Poole, Alexander	403
Pratt, Sarah	396
Qayyum, Asim	400
Radford, Marie	264

Author	Page(s)
Rapchak, Marcia	114, 149
Raszewski, Rebecca	383
Rath, Logan	271
Rathbun-Grubb, Susan	401
Rayini, Junaid	420
Redmond, Theresa	372
Remisch, David	69
Rieh, Soo Young	294
Roeschley, Ana	421
Rorissa, Abebe	348, 349
Rose, Abigail	89, 358
Rubenstein, Ellen L.	89, 342
Salib, Gabrielle	398
Samson, Hugh	351
Santos Green, Lucy	395
Saunders, Laura	339, 350
Schneider, Virginia	89, 358
Senteio, Charles	379
Shachak, Aviv	69
Shaw, George	343
Shittu, Jibril	417
Singh, Rajesh	123, 347
Smith, Andrew J. M.	257, 400
Snow, Karen	402
Soulen, Rita	132, 365
Spiering, Jenna	399
Spisak, Jen	399
Stanton, Katerina Lynn	369
Steele, Jennifer	405
Stevenson, Siobhan	195
Subramaniam, Mega	398
Sula, Chris Alen	288
Sutton, Sarah	257, 400
Sweeney, Miriam E.	345
Sylvester, Allan	301
Takazawa, Aiko	422
Tang, Rong	366
Tench, Beck	351
Tenney, Curtis S.	248
Thompson, Kim M.	400
Tian, Meng	385, 389
Townsend, Kerry	387
Trembach, Stan	390
Tucker, Virginia	403

Author	Page(s)
VanScoy, Amy	110, 362
Vardell, Emily	62, 361, 376
Velez, LaTasha	345
Villa-Nicholas, Melissa	345
Villagran, Michele	274, 340, 395
Wagner, Travis	343, 397
Wallace, Anna Grace	331
Walster, Dian	395
Wang, Ting	41
Weddle, Jeff	346
Wheeler, Nathan	398
Whetstone, Devon	1, 419
Wibowo, Muhamad Prabu	385, 389
Widdersheim, Michael	41
Willett, Rebekah	398
Williams, Rachel	350, 368
Williams-Hart, Tiffany	348
Winberry, Joseph	377
Wisser, Katherine M.	396
Wong, Melissa	400
Xia, Xu	392
Xu, Lulu	392
Xue, Yuqian	388
Yakel, Elizabeth	294
Yang, Changwoo	378
Yu, Xinchun	373
Zamir, Hassan	343
Zavalina, Oksana L.	159, 396
Zhang, Faliang	388, 392
Zhang, Mei	355
Zimmerman, Margaret	343, 395
Zimmerman, Tara	407
Zou, Ning	238

Author-Added Keyword Index

Keyword	Page(s)
“voice”	346
academic librarians	271
academic librarianship	80
academic libraries	21, 41, 184, 220, 264, 355, 357
academic research videos	326
access	400
action research	377
adaptive technologies	370
administration	348
advocacy	402
aim and scope	373
ALA-accredited library programs	383
ALISE Community conn@CT	377
alternative educational resources	257
Alzheimer’s dementia	140
anchoring bias	385
anticipating information needs	379
archival education	396
arrangement	396
arts-based research	414
Asian informatics	238
asset-based community development	195
asset-based model	345
authorship criteria	1
authorship practices	1
auto-ethnography	408
autonomous learning	388
barriers and adoption	230
BD	384
bias	393
bonded design	384
caregiver support	140
cataloging education	402
causal research	365
censorship	405
chat reference	264
child & youth services curricula	356
China	388, 392
citation network analysis	419
citizen participation and engagement	422

Keyword	Page(s)
civil rights	364
co-authorship analysis	419
co-word analysis	419
collaboration	343, 358, 415
collaborative learning	411
collection development	132, 399
college/university students	388
communities of records	421
community action	377
community archives	364
community college librarians	13
community college students	13
community development	354
community engagement	123, 342, 344, 364, 403
community informatics	354
community partnerships	350
community resiliency	248
community school	365
community-based archives	421
comparative research	347
competencies	339
conflict	391
contemplation	351
contemplative pedagogy	351
content analysis	355, 376
continuing education	132
COVID-19	264, 363, 390, 392
creative inquiry	372
crisis informatics	422
critical LIS pedagogies	345
critical data studies	345
critical incidents	28, 409
critical making	344
critical reasoning	331
cross-institutional collaboration	366
cultural competency	357
cultural heritage	408
cultural perspective	238
curriculum	114, 203, 211, 288, 339, 349
curriculum development	354
curriculum review	376
customer service	369

Keyword	Page(s)
data citation	367
data collection	358
data ethics	395
data librarian	317
data management	317, 362
data reuse	367
data science	317, 362, 373
data sharing	367
deception	417
decision-making	374
decolonial	211
design principles	281
design thinking	149, 398
digital archives	421
digital cultural heritage	421
digital humanities	288
digital inclusion	301
digital literacy	413
digital reading	387
digitization	396
disabilities	400
disability services	97
disaster management training	350
disaster response	248
disciplinary landscape	373
discrimination	393
distance education	370
distance learning	166
diverse older adults	377
diversity	400, 402
doctoral curriculum	238
doctoral education	1
document society	381
domain-specific informatics	238
e-textbooks	257
education	62, 211, 220, 288, 362, 364
education programs/schools	274, 288
educational data mining	394
electronic health records	230
embodied information	397
embodiment	408
emerging technologies	392
emotional labor	369

Keyword	Page(s)
empathy	369
equity	372, 400, 406
everyday information practice	414
evidence-based approach	361
experiential learning	69
exploratory study	271
faculty	339, 348
faculty development	80
faculty of color	393
family studies	398
first generation students (FGS)	340
fulfilling information needs	379
functional ontology construction	417
game design	418
game jams	418
GCC countries	230
genocide studies	381
GIS	403
Google Maps	414
gray zone conflict	391
health and wellness	89
health equity	342
health informatics	140
health information	382, 404
health information needs	379
health information professional	361
health justice	376
health-related informatics	383
higher education	97, 184, 357, 392, 394
history	364
human information behavior	407
iSchool	411
iSchools	383
identity negotiations	409
immigrants	404
improv	62
inclusion	97, 274, 372, 400
independent game designers	418
indexing	381
indie game designers	418
Indigenous inclusion	301
Indigenous peoples	301
information	351

Keyword	Page(s)
information access	405
information behavior	418
information behavior theory	110
information ethics	394, 395
information literacy	21, 123, 220, 391, 395
information literacy landscapes	271
information needs	220
information policy	395
information practices	382
information privacy	362
information security	386, 417
information seeking	220
information seeking behaviors	363
information services	140
information technologies	362
information theory	407
information worlds	397
innovation	349
institutional legitimation	408
instructional design	114
instructional librarian	97
instructional practices	362
instructor	348
intellectual disabilities	97
intellectual freedom	405
interdisciplinary	343
interdisciplinary research	55, 347, 381, 398
interpersonal communication	358
intersectionality	406
interviews	264
journal analysis	373
knowledge-making	408
language archives	396
leadership	374, 399, 415
learning	344, 392, 413
learning analytics	184, 362, 394
learning support services	388
legal information needs	379
lexical analysis	419
LGBTQ	406
LGBTQ+ youth	382
LGBTQI+ youth	398
librarians	28

Keyword	Page(s)
librarianship	211, 401
libraries	344, 364, 401
library access	365
library and information science	274, 383
library and information science education	28, 393
library instruction	41, 395
library programming	140
library responses to crises	350
LIS curriculum	317, 347, 376
LIS education	55, 80, 238, 339, 349, 350, 371, 376
LIS educators	346
LIS students	166
LIS theory	409
literacy	413
literature	406
literature review	301
makerspaces	380
marginalized populations	345
media literacy	391
mental health	368
metadata education	159
methods and strategies	349
mixed methods	369
mixed research methods	404
MLIS	80
MLIS programs	340
mobile maps	414
mobile technology	413
mothers	404
multiliteracies	372
multimedia	372
multimedia digital presentations	326
museum visitor studies	408
natural disasters	248
news literacy	399
older adults	384
online education	340
online learning	114, 166, 358
online pedagogy	159
online reviews	359
open educational resources	257
orientation	166
pandemic	363, 385, 389

Keyword	Page(s)
participatory archive initiatives	421
participatory design	384
partners	415
partnership	355
partnerships	344, 383
patrons in crisis	368
PD	384
pedagogy	41, 114, 123, 274, 288, 331, 344, 349
phishing emails	417
podcasts	344
poetry	346
postgraduate students	166
postsecondary education	97
practice theory	271
prison libraries	405
processing	396
professional competency	361
professional core values	374
professional development	357
professional education	110
professional ethics	374
professional identity	28, 409
professional skills	339
program evaluation study	294
PROMESA	211
public librarians	248, 409
public librarianship	80, 368
public libraries	342, 380, 386
public library	379
public library patrons information needs	379
public preference	385, 389
publishing	395
Puerto Rico	211
qualitative methods	264
qualitative research	369
quality evaluation	159
Quality Matters	370
queer authenticity	397
queer communities	397
queer imaginaries	397
queer phenomenology	397
queer theory	397
Radical Change Theory	418

Keyword	Page(s)
reading	406
reading and reading practices	220
reading comprehension	387
records and information management	230
reference	62
reference and information service	110
reference instruction	331
reference publication year spectroscopy	419
reflexive practice	28
reflexivity	28
reinforcement	417
remote learning	203
remote work	358
representation	274
research	248, 364
research competency	294
research data	367
research data lifecycle	317
research data services	317
research engagement model	294
research methods	184, 347
research papers	326
research practices	343
research-practice partnership	365
resilience	368
responding to information needs	379
responsibility	395
Romania	408
rural and small public libraries	89
rural health	342
rural libraries	354, 380
scholarly communication	403
scholarly publishing	355
scholarship	343
school librarians	203
school libraries	132, 365, 399
school library	203
school library curricula	356
scientometrics	419
searching as learning	422
self-organizing	422
sense-making	414
sentiment analysis	385, 389
service learning	377

Keyword	Page(s)
sexuality health	406
shared mental models	366
simulation	69
skill-building instruction	159
social informatics	397
social justice	123, 364, 376, 403, 405
social media	203, 407, 411
social media apps	403
social media mining	385, 389
social networking sites	359
social practice	271
social services information needs	379
social work	368
soft skills	62, 69, 339
specific populations	21, 123
specific populations: immigrants	274
standards implementation	399
strategic planning	348
stress	248
student education and research	89
student evaluations of teaching	393
student privacy	184, 362
student research	1, 55
student textbook preference	257
students	220
students' governance	371
surveys	264
sustainability in library services	390
syllabi review	356
teacher training	41
teaching	392
teaching and learning	415
teaching methods	339
team effectiveness	366
teamwork	366
technical services	402
technology	358, 378
technology competencies	378
technology use	378
teen-centered approach	380
text analysis	359
text mining	385, 389
textbook format	257

Keyword	Page(s)
the city	414
The New Literacies Studies	413
training and professional development	368
transformation	402
transformative pedagogy	372
transition	166
Tree of Contemplative Practices	351
UDL	281
UID	281
universal design	400
universal design for learning	281
universal instructional design	281
universities	348
university presses	355
U.S. national security	391
USA	392
user experience	411
user services	264, 369
user-generated content	359
vernacular museums	408
video games	331, 413
video journals	326
Visual Grounded Theory	414
visual journaling	372
visualization	396
war	391
wayfinding	414
website design	386
women in game design	418
young adults	406
youth programs	380
youth services	380

ALISE Research Taxonomy Index

Keyword	Page(s)
LIS education	195
abstracting	373
academic libraries	13, 21, 41, 97, 184, 220, 257, 317, 350, 355, 357, 378, 390, 415
accreditation	401
archives	364, 396, 421
bibliometrics	373, 419
big data	184, 385, 389
cataloging	402
children's services	356, 387
classification	359, 379, 402
collection development	132
collections development	140, 399, 406
community engagement	89, 123, 140, 149, 195, 248, 344, 354, 364, 377, 380, 421, 422
community-led services	195, 248, 342
computer-supported collaborative work	366, 422
computer-supportive collaborative work	331
continuing education	132, 248, 294, 357, 371, 383, 402, 403
critical librarianship	211, 301, 345, 357, 379, 397
curriculum	1, 41, 55, 62, 80, 97, 114, 149, 159, 195, 203, 211, 238, 248, 281, 288, 317, 339, 340, 347, 348, 349, 350, 354, 356, 361, 369, 372, 376, 400, 401
data curation	317, 367
data management	362
data science	362
data visualization	385, 389, 417
digital humanities	288
diversity, equity, & inclusion (DEI)	340
education of information professionals	69, 110, 140, 344, 346, 370

Keyword	Page(s)
education programs/schools	28, 89, 132, 166 238, 288, 294, 317, 339, 343, 347, 365, 371, 376, 383, 388, 393, 401
human-computer interaction & design	149, 413
indexing	381
informatics	348
information ethics	1, 345, 374, 391, 394, 395, 402, 405
information literacy	13, 21, 41, 97, 123, 220, 238, 271, 372, 391, 395, 399, 403, 414, 419
information needs	110, 140, 149, 220, 230, 343, 363, 377, 379, 382, 384, 388, 390, 398, 405, 406, 422
information policy	394, 395
information practices	110, 264, 413
information privacy	184, 362
information rights	362
information seeking	110, 220, 363, 364, 382, 397, 404, 405, 406, 414, 418, 422
information system design	281, 301, 386
information technologies	362
information use	110, 257, 351, 363, 364, 372, 385, 387, 391, 397, 404, 405, 407, 414, 418, 422
instruction	348
intellectual freedom	364, 405
knowledge management	364
metadata	159, 345, 359, 402
mobile systems	414
museums	408
natural language processing	359, 385, 389
online learning	114, 159, 166, 203, 257, 281, 349, 358, 366, 370, 390, 392, 400, 403
ontologies	417

Keyword	Page(s)
pedagogy	28, 41, 62, 69, 114, 123, 149, 195, 211, 257, 281, 288, 331, 339, 343, 344, 347, 349, 351, 372, 377, 381, 387, 392, 393, 396, 398, 400, 403
political economy of the information society	391, 397, 414
print culture	257
public libraries	89, 195, 248, 342, 350, 356, 358, 368, 374, 378, 379, 380, 384, 386, 409
publishing	355, 406
reading and reading practices	220, 387
records and information management	364
reference transactions	41, 62, 69, 140, 331, 369
research methods	28, 55, 89, 184, 195, 294, 343, 347, 358, 363, 381, 397, 409, 413, 414
scholarly communications	1, 55, 326, 343, 355, 367, 411
school libraries	132, 356, 365, 387, 399
social computing	301, 411
social justice	97, 123, 195, 211, 274, 342, 345, 368, 372, 376, 377, 379, 397, 400, 403, 405, 421
social media	344, 385, 389, 397, 404, 407
sociocultural perspectives	346, 413
sociology of information	230, 377, 379, 381, 391, 397, 398, 404, 407, 409, 417
specific populations	13, 21, 123, 140, 195, 274, 301, 345, 368, 382, 384, 404, 406, 413, 418, 421
standards	97, 369, 370
strategic planning	348

Keyword	Page(s)
students	1, 28, 80, 89, 159, 166, 184, 220, 257, 281, 294, 340, 349, 351, 369, 371, 372, 376, 388, 392, 393, 400, 411
teaching faculty	41, 80, 339, 340, 347, 349, 372, 376, 392, 396, 400,
technology	348
ubiquitous computing	414
young adult services	356, 380, 398, 406